A.4.1

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184
www.epa.state.oh.us

MAILING ADDRESS:
P.O. Box 1049
Columbus, Ohio 43216-1049

CERTIFIED MAIL

June 30, 2006

Re: **U.S. DOE Miamisburg Closure Project**
EPA ID No: OH6 890 008 984
Ohio ID No: 05-57-0677
Modified Hazardous Waste Permit

U.S. DOE Miamisburg Closure Project
Attn: John Fulton
PO Box 66
Miamisburg, Ohio 45343

Dear Mr. Fulton:

On July 9, 2004 and January 27, 2003, Ohio EPA received U.S. DOE Miamisburg Closure Project's (DOE Closure Project) requests to remove references to active hazardous waste storage facilities from the Part B application as a result of certified closure of building 72 storage area; and to change the operator from BWXT of Ohio, Inc. to CH2MHill Mound, Inc. The permit has been modified to include a provision of Corrective Action only. For these modifications, DOE Closure Project submitted Class 2 and Class 3 modification applications[1]. The Agency did not receive written comments concerning the Class 2 and Class 3 modification applications. I have enclosed the final modified Ohio hazardous waste facility installation and operation permit (Permit) that was issued by the director today. Please note that the modified Permit remains in effect until it is renewed, withdrawn, suspended or revoked.

You have the right to appeal this Permit decision to the Environmental Review Appeals Commission (ERAC) no later than 30 days after the public notice (See Ohio Revised Code § 3745.04). You may file your appeal with ERAC at the following address: Environmental Review Appeals Commission, 309 South Fourth Street, Room 222, Columbus, Ohio 43215.

If you file an appeal, you must put it in writing. Your appeal must explain why you are appealing these actions and the grounds you are using for your appeal. You must send a copy of the appeal to the director of the Ohio Environmental Protection Agency no later than three (3) days after you file it with ERAC.

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[1]Ohio EPA assigned tracking #s 040709-2-1 & 030127-3-1 to these modification applications.

If you have any questions, please contact Jeff Smith of Ohio EPA's Southwest District Office at (937) 285-6357.

Sincerely,

Pamela S. Allen

Pamela S. Allen, Manager
Regulatory and Information Services
Division of Hazardous Waste Management

cc: Jeremy Carroll/Christopher Hunt, ERAS, DHWM
Harriet Croke, U.S. EPA, Region V
Harold O'Connell/Jeff Smith, SWDO, DHWM
Carol Hester, Ohio EPA, PIC

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PUBLIC NOTICE

Montgomery County

OHIO EPA ISSUES FINAL CLASS 2 AND CLASS 3 HAZARDOUS WASTE PERMIT MODIFICATIONS

On June 30, 2006, Ohio EPA issued final class 2 and class 3 hazardous waste facility installation and operation permit (Permit) modifications to U.S. DOE Miamisburg Closure Project (DOE Closure Project) for its facility at 1 Mound Road, Miamisburg, Ohio 45343. The EPA Identification Number for this facility is OH6890008984.

Why is DOE Closure Project modifying its Permit?

DOE Closure Project is a closed facility but was engaged primarily in the manufacture of detonators and other components for nuclear weapons. This activity resulted in the generation of various hazardous wastes. DOE Closure Project stores these hazardous wastes in two on-site storage units. DOE Closure Project is requesting a class 2 modification to remove references to active hazardous waste storage facilities from the Part B application as a result of certified closure of building 72 storage area and a class 3 modification to change the operator from BWXT of Ohio, Inc. to CH2MHill Mound, Inc. The permit has been modified to include a provision of Corrective Action only.

Can I appeal this final modified Permit?

Yes, if you are an officer of an agency of the state or of a political subdivision, acting in a representative capacity, or any person who would be aggrieved or adversely affected by this modified Permit, you have the right to appeal this Permit decision to the Environmental Review Appeals Commission (ERAC).

If I decide to appeal this final modified Permit, how and when must I make the appeal?

If you file an appeal, you must put it in writing no later than **August 7, 2006.** Your appeal must explain why you are appealing the action and the grounds you are using for your appeal. You must file your appeal, according to Ohio Revised Code §§ 3745.04 and 3745.07, with ERAC at the following address: ***Environmental Review Appeals Commission***, 309 South Fourth Street, Room 222, Columbus, Ohio 43215. You must send a copy of the appeal to the director of Ohio EPA at the following address no later than three (3) days after you file it with ERAC: ***Joseph P. Koncelik, Director of Ohio EPA***, P.O. Box 1049, Columbus, Ohio 43216-1049.

OHIO ENVIRONMENTAL PROTECTION AGENCY

MODIFIED OHIO HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT

Date of Issuance: June 30, 2006
Effective Date: June 30, 2006

U.S. EPA ID No.: OH6 890 008 984
Ohio Permit No.: 05-57-0677

Name of Permittee: US DOE Miamisburg Closure Project

Mailing Address: US DOE Miamisburg Closure Project
P.O. Box 66
Miamisburg, OH 45342-0066

Facility Location: 1 Mound Road
Miamisburg, OH 45343

Person to Contact: John Fulton

This Modified Ohio Hazardous Waste Facility Installation and Operation Permit is issued pursuant and subject to Section 3734.05(I) of the Ohio Revised Code and Rule 3745-50-51(D) of the Ohio Administrative Code.

The Ohio Hazardous Waste Facility Installation and Operation Permit with the above-referenced permit number as issued by the Ohio Environmental Protection Agency and journalized on March 22, 2002 is hereby incorporated by reference in its entirety, except as it may be modified herein.

This modification of the permit shall remain in effect until such time as the Ohio Hazardous Waste Facility Installation and Operation Permit is renewed, modified, withdrawn, suspended or revoked.

The Permittee shall comply with all requirements of the modified Part B permit application as amended July 9, 2004. The information contained in the modified Part B permit application is incorporated herein by reference. Specifically, all written statements regarding the specifications, locations or capabilities of the processes, equipment, containment devices, safety devices or programs or other matters made by the applicant in the permit modification application are hereby incorporated as express, binding terms and conditions of this modified permit.

The modified Terms and Conditions of this permit are attached hereto and are incorporated herein by reference. The modified Terms and Conditions supersede and replace the corresponding pages found in the March 22, 2002 renewal permit.

Joseph P. Koncelik
Director

permitpg_Class2.jms.wpd

OHIO ENVIRONMENTAL PROTECTION AGENCY

MODIFIED OHIO HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT

Date of Issuance: June 30, 2006
Effective Date: June 30, 2006

U.S. EPA ID No.: OH6 890 008 984
Ohio Permit No.: 05-57-0677

Name of Permittee: U.S. Department of Energy Miamisburg Closure Project

Mailing Address: PO Box 66
Miamisburg, OH 45343

Facility Location: 1 Mound Road
Miamisburg, OH 45343

Person to Contact: John Fulton

This Modified Ohio Hazardous Waste Facility Installation and Operation Permit is issued pursuant and subject to Section 3734.05(I) of the Ohio Revised Code and Rule 3745-50-51(D) of the Ohio Administrative Code.

The Ohio Hazardous Waste Facility Installation and Operation Permit with the above-referenced permit number as issued by the Ohio Environmental Protection Agency and journalized on March 22, 2002, is hereby incorporated by reference in its entirety, except as it may be modified herein.

This modification of the permit shall remain in effect until such time as the Ohio Hazardous Waste Facility Installation and Operation Permit is renewed, modified, withdrawn, suspended or revoked.

The Permittee shall comply with all requirements of the modified Part B permit application as amended or supplemented on January 27, 2003. The information contained in the modified Part B permit application is incorporated herein by reference. Specifically, all written statements regarding the specifications, locations or capabilities of the processes, equipment, containment devices, safety devices or programs or other matters made by the applicant in the permit modification application are hereby incorporated as express, binding terms and conditions of this modified permit.

The modified Terms and Conditions of this permit are attached hereto and are incorporated herein by reference. The modified Terms and Conditions supersede and replace the corresponding pages found in the March 22, 2002 renewal permit.

Joseph P. Koncelik
Director

OHIO ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF HAZARDOUS WASTE MANAGEMENT

SUMMARY OF MODIFICATIONS TO HAZARDOUS WASTE INSTALLATION AND OPERATION PERMIT

US DOE Miamisburg Closure Project
U.S. EPA ID #: OH6 890 008 984
Ohio ID #: 05-57-0677

Modifications of the Hazardous Waste Facility Installation and Operation Permit will authorize US DOE Miamisburg Closure Project to make the following changes:

Class 2 Modification:

Removal of references to active hazardous waste storage facilities from the Part B application as a result of certified closure of Building 72 storage area. Authorization for only Corrective Action.

Class 3A Modification:

Change in operator from BWXT of Ohio Inc. To CH2M Hill Mound, Inc.

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OHIO ENVIRONMENTAL PROTECTION AGENCY

OHIO HAZARDOUS WASTE FACILITY
INSTALLATION AND OPERATION PERMIT RENEWAL

Permittee: U.S. DOE Miamisburg Closure Project (MCP)

Mailing Address: U.S. DOE MCP
P.O. Box 66
Miamisburg, OH 45343

Owner: U.S. Department of Energy
P.O. Box 66
Miamisburg, OH 45343

Operator: CH2MHill Mound, Inc.
P.O. Box 3030
Miamisburg, OH 45343

Location: 1 Mound Road
Miamisburg, OH 45343

Ohio Permit No.: 05-57-0677

US EPA ID: OH6 890 008 984

Issue Date: March 22, 2002

Effective Date: March 22, 2002

Expiration Date: March 22, 2007

AUTHORIZED ACTIVITIES

In reference to the application of U.S. DOE Miamisburg Closure Project (formerly known as Mound Laboratory) for an Ohio Hazardous Waste Facility Installation and Operation Renewal Permit under Ohio Revised Code (ORC) Chapter 3734 and the record in this matter, you are authorized to conduct at the above-named facility the following hazardous waste management activities:

- Address Corrective Action Requirements per Ohio Administrative Code Rule 3745-54-101

MODULE A - GENERAL PERMIT CONDITIONS

A. GENERAL PERMIT CONDITIONS

A.1. Effect of Permit
ORC Sections 3734.02 (E) and (F) and 3734.05
OAC Rule 3745-50-58(G)

(a) The Permittee is authorized to conduct Corrective Action activities in accordance with the terms and conditions of this permit, ORC Chapter 3734, all applicable Ohio hazardous waste rules, all applicable regulations promulgated under the Resource Conservation and Recovery Act (RCRA), as amended, and the approved hazardous waste facility installation and operation permit renewal application, as such application has been revised and supplemented and as such application may be modified pursuant to the hazardous waste rules. The approved Part B permit application as submitted to Ohio EPA on April 17, 2001, and any subsequent amendment thereto, is hereby incorporated into this permit. In the instance of inconsistent language or discrepancies between the above, the language of the more stringent provision shall govern.

(b) Any management of hazardous waste not authorized by this permit is prohibited, unless otherwise expressly authorized or specifically exempted by law. Issuance of this permit does not convey property rights of any sort or any exclusive privilege; nor does it authorize any injury to persons or property, or invasion of other private rights. Compliance with the terms and conditions of this permit does not obviate Permittee's obligation to comply with other applicable provisions of law governing protection of public health or the environment including but not limited to the Community Right to Know law under ORC Chapter 3750.

A.2. Permit Actions
OAC Rule 3745-50-58(F)

This permit may be modified, revoked, suspended, or renewed as specified by Ohio law. The filing of a request for a permit modification, revision, revocation, suspension, or renewal or the notification of planned changes or anticipated noncompliance on the part of the Permittee, does not stay the applicability or enforceability of any permit term or condition.

A.3. Permit Effective/Expiration Date
OAC Rule 3745-50-54

The effective date of this permit is the date the permit is entered into the Director's Journal. The permit expiration date is five years after the date of journalization of this permit.

A.4. Severability

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

A.5. Duty to Comply
OAC Rule 3745-50-58(A)

The Permittee shall comply with all applicable provisions of ORC Chapter 3734, all applicable Ohio hazardous waste rules, and all terms and conditions of this permit, except to the extent and for the duration such noncompliance is authorized by the laws of the State of Ohio. Any permit noncompliance, other than noncompliance authorized by the laws of the State of Ohio, constitutes a violation of ORC Chapter 3734 and the rules adopted thereunder and is grounds for enforcement action, suspension, revocation, modification, revision, denial of a permit renewal application or other appropriate action.

A.6. Duty to Reapply and Permit Expiration
OAC Rules 3745-50-40(E); 3745-50-58(B); 3745-50-56 and ORC Section 3734.05(H)

(a) If the Permittee wishes to continue an activity allowed by this permit after the expiration date of this permit, the Permittee must submit a completed application for a hazardous waste facility installation and operation permit renewal and any necessary accompanying general plans, detailed plans, specifications, and such information as the Director may require, to the Director no later than one hundred eighty (180) days before to the expiration date of this permit or upon approval of the director a later date prior to the expiration date if the Permittee can demonstrate good cause for late submittal.

(b) The Permittee may continue to operate in accordance with the terms and condition of the expired permit until a renewal permit is issued or denied if:

(i) the Permittee has submitted a timely and complete application for a renewal permit under OAC Rule 3745-50-40; and

(ii) through no fault of the Permittee, a new permit has not been issued pursuant to OAC Rule 3745-50-40 on or before the expiration date of this permit.

(c) The corrective action obligations contained in this permit will continue regardless of whether the facility continues to operate or ceases operation and closes. The Permittee is obligated to complete facility-wide corrective action under the conditions of this permit regardless of the operational status of the facility. The Permittee must submit an application for permit reissuance at least 180 days before the expiration date of this permit pursuant to OAC 3745-50-40(D) unless a) the permit has been modified to terminate the corrective action schedule of compliance and the Permittee has been released from the requirements for financial assurance for corrective action; or b) permission for a later date has been granted by the Director. The Director shall not grant permission for applications to be submitted later than the expiration date of the existing permit.

A.7. Need to Halt or Reduce Activity Not a Defense
OAC Rule 3745-50-58(C)

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce a permitted activity in order to maintain compliance with the conditions of this permit.

A.8. Duty to Mitigate
OAC Rule 3745-50-58(D)

The Permittee shall expeditiously take all reasonable steps necessary to minimize or correct any adverse impact on the environment or the public health resulting from noncompliance with this permit.

A.9. Proper Operation and Maintenance
OAC Rule 3745-50-58(E)

The Permittee shall at all times properly operate and maintain the facility (and related appurtenances) to achieve compliance with the terms and conditions of this permit. Proper operation and maintenance includes, but is not limited to, effective management practices, adequate funding, adequate operator staffing and training, and where appropriate, adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when necessary to achieve compliance with the terms and conditions of this permit.

A.10. Duty to Provide Information
OAC Rule 3745-50-58(H)

The Permittee shall furnish the Director, within a reasonable time, any relevant information which the Director may request to determine whether cause exists for modifying, revising, revoking or suspending this permit or to determine compliance with this permit. The Permittee shall also furnish the Director, upon request, copies of records required to be kept by this permit.

A.11. Inspection and Entry
OAC Rule 3745-50-58(I), 3745-50-30 and ORC Section 3734.07

(a) The Permittee shall allow the Director, or an authorized representative, upon stating the purpose and necessity of the inspection and upon proper identification to:

(i) enter at reasonable times upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the terms and conditions of this permit;

(ii) have access to and copy, at reasonable times, any records required to be kept under the terms and conditions of this permit;

(iii) inspect and photograph at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under the terms and condition of this permit; and

(iv) sample, document, or monitor, at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by ORC

Chapter 3734 and the rules adopted thereunder, any substances or parameter at any location.

(b) Any record, report or other information obtained under the hazardous waste rules or Chapter 3734 of the Revised Code shall not be available to the public upon the Permittee's satisfactory showing to Ohio EPA that all or part of the information would divulge methods or processes entitled to protection as trade secrets pursuant to Ohio Trade Secret Law and OAC Rule 3745-50-30.

A.12. Monitoring and Records
OAC Rules 3745-50-58(J)

(a) Any sample and measurement taken for the purpose of monitoring shall be a representative sample or measurement, as such term is defined and used in the Ohio hazardous waste rules. The method used to obtain a representative sample of the waste to be analyzed must be the appropriate method from Appendix I of OAC Rule 3745-51-20, Laboratory Methods. Laboratory methods must be those specified in Test Methods for the Evaluation of Solid Waste: Physical /Chemical Methods; SW-846:Third Edition, November 1992; and additional supplements or editions thereof; Standard Methods for the Examination of Water and Wastewater: Seventeenth Edition, 1989; or an equivalent method as specified in the approved waste analysis plan, or as such term is defined and used in the Ohio hazardous waste rules.

(b) Records of monitoring information shall specify the:

(i) date(s), exact place(s), and time(s) of sampling or measurements;

(ii) individual(s) who performed the sampling or measurements;

(iii) date(s) analyses were performed;

(iv) individual(s) who performed the analyses;

(v) analytical technique(s) or method(s) used; and

(vi) results of such analyses.

A.13. Signatory Requirement and Certification of Records
OAC Rule 3745-50-58(K) and 3745-50-42

All applications, reports or information shall be properly signed and certified in accordance with OAC Rule 3745-50-58(K).

A.14. Reserved

A.15. Planned Changes
OAC Rules 3745-50-51 and 3745-50-58(L)(1)

The Permittee shall give notice to the Director as soon as possible of any planned physical alterations or additions to the permitted facility. All such changes must be made in accordance with OAC Rule 3745-50-51.

A.16. Waste Shipments
OAC Rule 3745-52-12, ORC 3734.15(C)

The Permittee shall only use properly registered transporters of hazardous waste to remove hazardous waste from the facility, in accordance with all applicable laws and rules.

A.17. Anticipated Noncompliance
OAC Rule 3745-50-58(L)(2)

The Permittee shall give advance notice to the Director of any planned changes in the permitted facility or operations which may result in noncompliance with the terms and conditions of this permit. Such notification does not waive the Permittee's duty to comply with this permit pursuant to Condition A.5.

A.18. Transfer of Permits
OAC Rules 3745-50-52; 3745-50-58(L)(3) and 3745-54-12

(a) This permit is not transferable to any person except after notice of the director.

(b) The permit may be transferred to a new owner or operator only if such transfer is conducted in accordance with ORC Chapter 3734 and the rules adopted thereunder. This permit may be transferred by the Permittee to a new owner or operator only if the permit has been modified under OAC Rule

3745-50-51. Before transferring ownership or operation of the facility the Permittee shall notify the new owner or operator in writing of the requirements of ORC Chapter 3734 and the rules adopted thereunder (including all applicable corrective action requirements).

(c) The Permittee's failure to notify the new owner or operator of the requirements of the applicable Ohio law or hazardous waste rules does not relieve the new owner or operator of its obligation to comply with all applicable requirements.

A.19. Compliance Reports
OAC Rule 3745-50-58(L)(5) and 3745-50-50

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule (developed in accordance with OAC Rule 3745-50-50) of this permit shall be submitted Director no later than fourteen (14) days following each scheduled date.

A.20. Immediate Reporting of Noncompliance
OAC Rule 3745-50-58(L)(6)

(a) The Permittee shall report orally to Ohio EPA's Division of Emergency and Remedial Response within twenty-four hours from the time the Permittee becomes aware of any noncompliance with this permit, ORC Chapter 3734 or the rules adopted thereunder, which endangers human health or the environment, including:

(i) information concerning the release of any hazardous waste that may cause an endangerment to public drinking water supplies; and

(ii) any information of a release or discharge of hazardous waste or a fire or explosion from the hazardous waste facility, which could threaten the environment or human health outside the facility.

(b) The report shall consist of the following information (if such information is available at the time of the oral report):

(i) name, address, and telephone number of the owner or operator;

(ii) name, address, and telephone number of the facility;

(iii) name and quantity of material(s) involved;

(iv) the extent of injuries, if any;

(v) an assessment of actual or potential hazards to the environment and human health outside the facility, where this is applicable; and

(vi) estimated quantity and disposition of recovered material that resulted from the incident.

A.21. Follow-Up Written Report of Noncompliance
OAC Rule 3745-50-58(L)(6)(c)

(a) A written report shall also be provided to Ohio EPA's Division of Emergency and Remedial Response and the Division of Hazardous Waste Management at the Southwest District Office within five (5) days of the time the Permittee becomes aware of the circumstances reported in Condition A.20.

(b) The written report shall address the items in A.20 and shall contain a description of such noncompliance and its cause; the period(s) of noncompliance (including exact dates and times); whether the noncompliance has been corrected; and, if not, the anticipated time it is expected to continue; and steps taken or planned to minimize the impact on human health and the environment and to reduce, eliminate, and prevent recurrence of the noncompliance.

(c) The Permittee need not comply with the five (5) day written report requirement if the Director, upon good cause shown by the Permittee, waives that requirement and the Permittee submits a written report within fifteen (15) days of the time the Permittee becomes aware of the circumstances.

A.22. Other Noncompliance
OAC Rule 3745-50-58(L)(10) and 3745-50-58(L)(4)

The Permittee shall report to the Director, all other instances of noncompliance not provided for in Condition A.20. These reports shall be submitted within a month of the time at which the Permittee is aware of such noncompliance. Such reports shall contain all information set forth within Condition A.20 of this permit.

A.23. Reserved

A.24. Other Information
OAC Rule 3745-50-58(L)(11)

If at any time the Permittee becomes aware that it failed to submit any relevant facts, or submitted incorrect, misleading, or incomplete information to the Director, the Permittee shall promptly submit such facts, information or corrected information to the appropriate entity.

A.25. Confidential Information
OAC Rule 3745-50-30

In accordance with ORC Chapter 3734 and the rules adopted thereunder, the Permittee may request confidentiality of any information required to be submitted by the terms and conditions of this permit. Including any information obtained by the Director, or an authorized representative, pursuant to the authority provided under condition A.11 of this permit.

A.26. Reserved

A.27. Reserved

A.28. Reserved

A.29. Reserved

MODULE B - GENERAL FACILITY CONDITIONS

B.1. Design, Maintenance and Operation of Facility
OAC Rule 3745-54-31

(a) The Permittee shall design, construct, maintain and operate the facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste constituents to air, soil, and ground or surface waters which could threaten human health or the environment.

(b) The Permittee shall not accept any hazardous waste from off-site sources.

B.2. Reserved

B.3. Reserved

B.4. Reserved

B.5. Reserved

B.6. Reserved

B.7. Reserved

B.8. Reserved

B.9. Reserved

B.10. Reserved

B.11. Reserved

B.12. Reserved

B.13. Reserved

B.14. Reserved

B.15. Reserved

B.16. Reserved

B.17. Reserved

B.18. Reserved

B.19. Reserved

B.20. Reserved

B.21. Reserved

B.22. Reserved

B.23. Reserved

B.24. Manifest System
OAC Rules 3745-54-70, 3745-54-71, 3745-54-72 and 3745-54-76

(a) In the management of waste at the facility the Permittee shall comply with the provisions of OAC Chapter 3745-52 and OAC Rules 3745-54-71, 3745-54-72 and 3745-54-76 with regard to the manifest system.

B.25. Reserved

B.26. Reserved

B.27. Reserved

B.28. Reserved

B.29. Reserved

B.30. Reserved

B.31. Reserved

B.32. Reserved

B.33. Reserved

B.34. Reserved

B.35. Reserved

B.36. Reserved

B.37. Reserved

B.38. Reserved

B.39. Reserved

B.40. General Requirements for Land Disposal Restrictions
OAC Chapter 3745-270

(a) The Permittee shall comply with all applicable regulations regarding land disposal prohibitions and restrictions as required by OAC Chapter 3745-270.

MODULE C - Reserved

MODULE D - Reserved

MODULE E - CORRECTIVE ACTION REQUIREMENTS

E.1. CORRECTIVE ACTION AT THE FACILITY
OAC Rules 3745-50-10 & 3745-54-101

(a) U.S. Department of Energy (U.S. DOE) shall address releases of hazardous substances, including hazardous waste and hazardous waste constituents, from any waste management unit at the facility using authority granted to U.S. DOE under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 104, to implement removal or remedial actions necessary to protect human health and the environment. U.S. DOE shall address releases from any waste management unit at the facility in a manner consistent with and in compliance with applicable Ohio law and rules. The authority for U.S. DOE to implement response actions for releases at the facility was granted by Executive Order 12580, which gave U.S. DOE the authority to implement response actions for releases at DOE facilities. The authority for U.S. DOE to implement response actions for releases at the facility is also contained in the Federal Facilities Agreement (FFA), negotiated under CERCLA Section 120 between the U.S. Environmental Protection Agency (U.S. EPA) and U.S. DOE. The State of Ohio became a party to this agreement in 1993.

(b) U.S. DOE shall address releases of hazardous substances, including hazardous waste and hazardous waste constituents, beyond the facility boundary using authority granted to U.S. DOE under CERCLA Section 104, to implement removal or remedial actions necessary to protect human health and the environment. U.S. DOE shall address releases beyond the facility boundary in a manner consistent with and in compliance with applicable Ohio law and rules. The authority for U.S. DOE to implement response actions for releases beyond the facility boundary was granted by Executive Orde12580, which gave U.S. DOE the authority to implement response actions for releases at DOE facilities. The authority for U.S. DOE to implement response actions for releases beyond the facility boundary is also contained in the FFA, negotiated under CERCLA Section 120 between U.S. EPA and U.S. DOE. The State of Ohio became a party to this agreement in 1993.

END OF PERMIT CONDITIONS

OhioEPA
State of Ohio Environmental Protection Agency
Southwest District

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357
FAX: (937) 285-6249

CERTIFIED MAIL

May 19, 2004

Mr. John Fulton
U.S. DOE Mound
P.O. Box 66
Miamisburg, Ohio 45342

Re: Final Facility Closure; Miamisburg Environmental Management Project; OH6890008984/05-57-0677

Dear Mr. Fulton:

On March 22, 2002, Ohio EPA approved a closure plan for a hazardous waste container storage unit associated with Building 72 which is located at the Miamisburg Environmental Management Project (MEMP) at One Mound Road, Miamisburg, Ohio 45342. On November 25, 2003, the Director received final certification documents for this unit. Within these documents you and Mr. Micheal D. Giordano, P.E., have certified that the container storage unit within Building 72 has been closed according to the specifications in the approved closure plan.

To verify MEMP closure activities, Jeff Smith from Ohio EPA's Southwest District Office conducted a final inspection of Building 72 on December 15, 2003. He also reviewed documents pertaining to the closure of the unit and determined that the activities proposed in the closure plan were conducted adequately. Based on this inspection and review, Ohio EPA has determined that MEMP has closed the unit in accordance with the approved closure plan and Ohio Administrative Code (OAC) rules 3745-55-11 through 3745-55-15. This area is the last remaining unit authorized by the facility's Ohio Hazardous Waste Installation & Operation Permit for conducting long-term storage of hazardous wastes. Therefore, closure of this unit constitutes full facility closure.

Although MEMP has now satisfactorily addressed the facility closure requirements under Ohio's hazardous waste laws, MEMP will remain subject to permitted facility requirements for the purpose of addressing RCRA Corrective Actions obligations, as required by OAC 3745-55-011. Therefore, in accordance with OAC 3745-50-51, in order to update the facility's permit and corresponding information within the permit application, MEMP officials are currently in the process of pursuing the appropriate permit modification.

Please contact Jeff Smith by phone at (937) 285-6070 if you have any questions concerning either the closure or permit-related issues that are addressed within this correspondence.

Sincerely,

Harold O'Connell, Supervisor
Division of Hazardous Waste Management

cc: Pamela Allen, Manager, RISS, CO
Ed Lim, Manager, ERAS, CO
Harry Sarvis, Manager, CAS, CO
Harriet Croke, U.S. EPA - Region V
Jeff Smith, DHWM, SWDO
Tim Stiager, DHWM, SWDO
Brian Nickel, OFFO, SWDO

ec: Jeremy Carroll, Supervisor, ERAS, DHWM
Stephanie Beak, Supervisor, ERAS, DHWM
Jeff Patzke, DDAGW, CO
DDAGW District File

HO/br

State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

Certified Mail
Return Receipt Requested

Re: U.S. DOE Miamisburg Closure Project
EPA ID #: OH6 890 008 984

November 14, 2003

Mr. John Fulton
U.S DOE Miamisburg Closure Project
P.O. Box 66
Miamisburg, Ohio 45343

Dear Mr. Fulton:

The Ohio EPA, Division of Hazardous Waste Management (DHWM) staff have reviewed your January 24, 2003, Ohio hazardous waste facility installation and operation permit (Permit) Class 3 Modification request (tracking number 030127-3A-1). It is the recommendation of the staff that the director issue a draft Permit modification for U.S. DOE Miamisburg Closure Project located at 1 Mound Road, Miamisburg, Ohio 45343, since the proposed modification to the permit appears to comply with applicable hazardous waste rules. Therefore, I have enclosed a draft Class 3 Permit Modification in accordance with Rule 3745-50-51 of the Ohio Administrative Code.

A public notice concerning the issuance of the draft Class 3 Permit Modification will appear on November 18, 2003, in the Dayton Daily News newspaper. A public announcement in similar form will be made over a local radio station. Ohio EPA will accept written comments relevant to the modification application and the draft Permit Modification until December 17, 2003. Written comments and/or requests to hold a public meeting should be submitted to Ohio EPA, Division of Hazardous Waste Management, P.O. Box 1049, Columbus, Ohio, 43216-1049, (614) 644-2977 before the close of the public comment period. Details about this draft action can be viewed on Ohio EPA's website under Stakeholders Involvement at http://web.epa.state.oh.us/dhwm/ You can review copies of the Permit application and the draft Permit Modification at the Ohio EPA offices and the following location:

Miamisburg Senior Adult Center
305 Central Avenue
Miamisburg, Ohio 45343
(937) 866-8999

After carefully considering public comments, Ohio EPA will reconsider the draft Permit Modification and should issue or deny the final Permit modification by January 16, 2004.

If you have any questions concerning the draft Class 3 Permit Modification, please call Jeff Smith of the Southwest District Office at (937) 285-6357.

Sincerely,

Pamela S. Allen

Pamela S. Allen, Manager
Regulatory and Information Services
Division of Hazardous Waste Management

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cc: Edwin Lim, ERAS, DHWM, CO
Jeremy Carroll, ERAS, DHWM, CO
Dennis DeNiro, ERAS, DHWM, CO
Harriet Croke, EPA, Region 5
Paul Pardi, DHWM, SWDO
Jeff Smith, DHWM, SWDO
Susan Willeke, PIC, Ohio EPA
file

PUBLIC NOTICE

Montgomery County

OHIO EPA ISSUES DRAFT MODIFIED HAZARDOUS WASTE PERMIT

On November 14, 2003, Ohio EPA issued a draft class 3 modified Hazardous Waste Facility Installation and Operation Permit (Permit) to the U.S. Department of Energy for its Miamisburg Closure Project (MCP) facility at 1 Mound Road, Miamisburg, Ohio 45343. The EPA Identification Number for this facility is OH6890008984.

Why is U.S. Department of Energy MCP modifying its Permit?

The U.S. Department of Energy (U.S. DOE) MCP is a closed facility but was engaged primarily in the manufacture of detonators and other components for nuclear weapons. This activity resulted in the generation of various hazardous waste. U.S. DOE MCP stores these hazardous wastes in two on-site storage units. U.S. DOE MCP wishes to change the name of the facility operator from BWXT of Ohio, Inc. to CH2M Hill Mound, Inc. The draft modification Permit contains the conditions under which the facility must operate if the Permit receives final approval. To issue this draft Permit modification, Ohio EPA determined that the Permit application is complete and meets appropriate standards and that the applicant has a history of compliance with relevant environmental laws and demonstrates sufficient reliability, expertise and competency to operate a hazardous waste facility under this chapter and Chapters 3704. and 6111. of the Revised Code, all rules and standards adopted under them, and terms and conditions of a hazardous waste facility installation and operation permit, given the potential for harm to the public health and safety and the environment that could result from the irresponsible operation of the facility. If issued, the draft Permit modification will allow U.S. DOE MCP to make the requested changes. Details about this draft action can be viewed on Ohio EPA's website under Stakeholders Involvement at http://web.epa.state.oh.us/dhwm/

When and where will Ohio EPA hold a Public Meeting?

You may request Ohio EPA to hold a public meeting for this draft permit modification. You should send your request to: Ohio EPA, Division of Hazardous Waste Management, Attn: Regulatory and Information Services, P.O. Box 1049, Columbus, Ohio 43216-1049, telephone number (614) 644-2977, fax number (614) 728-1245, e-mail: dhwmcomments@epa.state.oh.us If the request is granted, Ohio EPA will announce the time and location of the pubic meeting.

When and how do I submit written comments?

You can submit written comments anytime between November 18, 2003, and December 17, 2003. Send your comments to Ohio EPA, Division of Hazardous Waste Management, Attn: Regulatory and Information Services, P.O. Box 1049, Columbus, Ohio 43216-1049, telephone number (614) 644-2977, fax number (614) 728-1245, e-mail: dhwmcomments@epa.state.oh.us.

Where can I review the Permit Application and Draft Modified Permit?

You can review this information at one of the following locations:

Miamisburg Senior Adult Center, 305 Central Avenue, Miamisburg, Ohio 45342, (937) 866-8999;

Ohio EPA Southwest District Office, 401 East Fifth Street, Dayton, Ohio 45402, (937) 285-6357; and,

Ohio EPA, Division of Hazardous Waste Management, 122 South Front Street, Columbus, Ohio 43215 (614) 644-2917.

What will Ohio EPA do with the comments?

After carefully considering public comments, Ohio EPA will reconsider the draft modified Permit, making any necessary changes, and issue or deny the final Permit modification. Ohio EPA will issue a "response to public comments," specifying any changes made to the draft Permit modification. If you commented on the draft modification, Ohio EPA will send you a copy of the "response to public comments" and the final permit decision.

Ohio EPA

Fact Sheet

Draft Hazardous Waste Permit Modification
Ohio Administrative Code Rule 3745-50-51

Facility Name:	U.S. DOE Miamisburg Closure Project (MCP)
U.S. EPA I.D. :	OH6 890 008 984
Ohio Permit #:	05-57-0677
Location:	1 Mound Road
Facility Owner:	U.S. Department of Energy P.O. Box 66 Miamisburg, OH 45343
Facility Operator:	BWXT of Ohio, Inc. P.O. Box 3030 Miamisburg, OH 45343
Activity Described in Modification Application:	Change in Operator from BWXT of Ohio, Inc. to CH2MHill Mound, Inc.
Comment Period:	Begins: 11/18/03 Ends: 12/17/03

Public Participation Procedures and Comment Period
OAC Rule 3745-50-22 B(5)(a)&(b)

All persons, including the applicant, may submit written comments relating to this draft action. Written comments or requests for a public meeting may be submitted before the end of the comment period to Ohio EPA, Division of Hazardous Waste Management, Regulatory and Information Services Section, P.O. Box 1049, Columbus, Ohio 43216-1049, (614) 644-2980, or via e-mail at dhwmcomments@epa.state.oh.us.

The comment period begins on November 18, 2003, and ends on December 17, 2003. A copy of the permit application and the draft permit is available for review by the public at the following locations:

Miamisburg Senior Adult Center
305 Central Avenue
Miamisburg, OH 45342
937-866-8999

Ohio EPA, Southwest District Office
401 E. Fifth Street
Dayton, OH 45402
937-285-6357

Ohio EPA, Central Office
Division of Hazardous Waste Management
Lazarus Government Center
122 South Front Street
Columbus, Ohio 43215
614-644-2917

After the close of the public comment period, Ohio EPA will, without prior meeting, issue a modified permit (or deny the request) in accordance with Chapter 3734 of the Revised Code. If Ohio EPA approves the application, a modified permit will be issued with terms and conditions as are necessary to ensure compliance with hazardous waste rules.

Description of Facility
OAC Rule 3745-50-22 (B)(1)

The U.S. Department of Energy's (U.S. DOE's) Miamisburg Closure Project (MCP), formerly known as Mound Laboratory, is an inactive facility which made detonators and other components for nuclear weapons. Hazardous waste activities consist of storage of containers of remnant waste inside buildings.

Description of Requested Permit Modification
OAC Rule 3745-50-22 (B)(2)

The facility proposes to change its operator from BWXT of Ohio Inc. to CH2MHill Mound, Inc.

Regulatory Basis to Support the Decision to Modify the Permit Application

OAC Rule 3745-50-22 (B)(3)

When applying for a Class 3 permit modification, an applicant (U.S. DOE MCP) is required (by OAC Rule 3745-50-51 (D)) to submit the relevant informational requirements of OAC Rule 3745-50-43 (Part A application contents), OAC Rule 3745-50-44 (Part B application contents) and OAC Rule 3745-50-62 (Trial Burn). U.S. DOE MCP submitted the Class 3 modification application with the relevant required information on January 24, 2003. Ohio EPA has reviewed the application and has determined that the proposal complies with Ohio EPA rules.

Accordingly, Ohio EPA is issuing a draft action indicating the Director's intention with respect to the issuance of a modified permit to U.S. DOE MCP.

Contact Person

OAC Rule 3745-50-22 (B)(6)

For additional information, please contact Jeff Smith at 937-285-6357.

OHIO ENVIRONMENTAL PROTECTION AGENCY

MODIFIED OHIO HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT

Date of Issuance:
Effective Date:

U.S. EPA ID No.: OH6 890 008 984
Ohio Permit No.: 05-57-0677

Name of Permittee:	U.S. Department of Energy Miamisburg Closure Project
Mailing Address:	P.O. Box 66 Miamisburg, OH 45343
Facility Location:	1 Mound Road Miamisburg, OH 45343
Person to Contact:	John Fulton

This Modified Ohio Hazardous Waste Facility Installation and Operation Permit is issued pursuant and subject to Section 3734.05(I) of the Ohio Revised Code and Rule 3745-50-51(D) of the Ohio Administrative Code.

The Ohio Hazardous Waste Facility Installation and Operation Permit with the above-referenced permit number as issued by the Ohio Environmental Protection Agency and journalized on March 22, 2002, is hereby incorporated by reference in its entirety, except as it may be modified herein.

This modification of the permit shall remain in effect until such time as the Ohio Hazardous Waste Facility Installation and Operation Permit is renewed, modified, withdrawn, suspended or revoked.

The Permittee shall comply with all requirements of the modified Part B permit application as amended or supplemented on January 24, 2003. The information contained in the modified Part B permit application is incorporated herein by reference. Specifically, all written statements regarding the specifications, locations or capabilities of the processes, equipment, containment devices, safety devices or programs or other matters made by the applicant in the permit modification application are hereby incorporated as express, binding terms and conditions of this modified permit.

The modified Terms and Conditions of this permit are attached hereto and are incorporated herein by reference. The modified Terms and Conditions supersede and replace the corresponding pages found in the March 22, 2002 renewal permit.

Christopher Jones
Director

OHIO ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF HAZARDOUS WASTE MANAGEMENT

SUMMARY OF MODIFICATIONS TO HAZARDOUS WASTE INSTALLATION AND OPERATION PERMIT

U.S. Department of Energy Miamisburg Closure Project
U.S. EPA ID #: OH6 890 008 984
Ohio ID #: 05-57-0677

Modification of the Hazardous Waste Facility Installation and Operation Permit will authorize U.S. Department of Energy Miamisburg Closure Project to make the following change:

Class 3A Modification:

Change in operator from BWXT of Ohio Inc. to CH2MHill Mound, Inc.

OHIO ENVIRONMENTAL PROTECTION AGENCY

OHIO HAZARDOUS WASTE FACILITY INSTALLATION AND OPERATION PERMIT RENEWAL

Permittee: U.S. DOE Miamisburg Closure Project (MCP)

Mailing Address: U.S. DOE MCP
P.O. Box 66
Miamisburg, OH 45343

Owner: U.S. Department of Energy
P.O. Box 66
Miamisburg, OH 45343

Operator: CH2MHill Mound, Inc.
~~BWXT of Ohio, Inc.~~
P.O. Box 3030
Miamisburg, OH 45343

Location: 1 Mound Road
Miamisburg, OH 45343

Ohio Permit No.: 05-57-0677

US EPA ID: OH6 890 008 984

Issue Date:

Effective Date:

Expiration Date:

AUTHORIZED ACTIVITIES

In reference to the application of U.S. DOE Miamisburg Closure Project (formerly known as Mound Laboratory) for an Ohio Hazardous Waste Facility Installation and Operation Renewal Permit under Ohio Revised Code (ORC) Chapter 3734 and the record in this matter, you are authorized to conduct at the above-named facility the following hazardous waste management activities:

- Storage of hazardous waste (generated by on-site activities) in containers in Buildings 23 and 72.

Ohio EPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, Ohio 43215

TELE: (614) 644-3020 FAX: (614) 644-3184

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

July 21, 2003

Re: **U.S. DOE, Mound Closure Project**
Building #23-Radioactive Mixed Waste
Completion of Partial Closure
OH6 890 008 984

CH2M Hill, Mound, Inc.
Attn: Mr. John Fulton, Site Manager
1 Mound Road
P.O. Box 3030
Miamisburg, Ohio 45343-3030

Dear Mr. Fulton:

On March 22, 2002, Ohio EPA approved the closure plan for the U.S. DOE Mound Closure Project (DOE Mound) facility for Building #23 Radioactive Mixed Waste Storage Unit located at 1 Mound Road in Miamisburg, Ohio. This date coincides with DOE Mound's Ohio Hazardous Waste Facility Installation & Operation Final Permit renewal issuance date. The renewal permit application was submitted in April 2001.

On April 24, 2003, Ohio EPA, Southwest District Office (SWDO) received final certification documents from you and Mr. Michael D. Giordano, independent P.E., stating that the Building #23 storage unit had been closed according to the specifications in the approved closure plan. To verify DOE Mound's closure activities, Mr. Jeff Smith from Ohio EPA's Southwest District Office, conducted a final inspection of the storage unit on March 17, 2003. He also reviewed documents pertaining to the closure of the unit and determined that the activities proposed in the closure plan were conducted adequately.

Based on this inspection and review, Ohio EPA has determined that U.S. DOE Mound has closed the radioactive mixed waste storage unit at Building #23 according to the approved closure plan and rule 3745-55-11 of the Ohio Administrative Code (OAC). There is one other unit at this facility that remains subject to closure requirements. Therefore, the U.S. DOE Mound Closure Project will retain its TSD status.

Since Building #23 Radioactive Mixed Waste Storage Unit is now being closed, you are requested to submit a permit modification in accordance with OAC rule 3745-50-51 to reflect the reduction in the number of waste management units at the facility.

Although DOE Mound has satisfied its closure obligations under Ohio's hazardous waste laws for the storage unit, DOE Mound is still required to investigate and possibly clean up contamination of hazardous waste or constituents at the site, despite the time at which the waste was placed in the site. This obligation to investigate and possibly clean up contamination from past activities is also known as RCRA Corrective Action.

If you have any questions concerning the closure process or the status of the facility, please contact Tim Smith by phone at (937) 285-6357. His mailing address is: Ohio EPA, Southwest District Office, Attn: Tim Smith, 401 East Fifth Street, Dayton, Ohio 45402-2911.

Sincerely,

Pamela S. Allen

Pamela S. Allen, Manager
Regulatory and Information Services
Division of Hazardous Waste Management

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cc: Jeremy Carroll, DHWM, CO
John Schierberl, DHWM, CO
Tammy McConnell, DHWM, CO
Harriet Croke, USEPA, Region 5
Harold O'Connell, DHWM, SWDO
Tim Smith, DHWM, SWDO
file

INTER-OFFICE COMMUNICATION

TO: Pamela Allen, Regulatory and Information Services Section, DHWM, Central Office

FROM: Jeff Smith through Tim Staiger through Harold O'Connell, DHWM, SWDO

SUBJECT: **Closure Certification for Unit at:**
U.S. DOE Mound Closure Project
OH6 890 008 984
Montgomery County

DATE: June 10, 2003

U.S. DOE Mound Closure Project has submitted a closure certification for Building 23, Radioactive Mixed Waste Storage Unit at their facility located at 1 Mound Road Miamisburg, Ohio. The approved closure plan is contained within the permit renewal issued on March 22, 2002. The original closure certification document was submitted to Ohio EPA on April 24, 2003.

On March 17, 2003, a closure certification inspection was conducted. Ohio EPA conducted a visual inspection and did not observe any signs of contamination and the building appeared to be structurally sound. Building 23 and the surrounding area is also subject to the decommissioning activities being conducted at the facility as part of the CERCLA cleanup.

At the time of the inspection, the units appeared to be free of any residual waste. To the best of my ability to determine from a visual examination, and based on information submitted with the certification received at this office on April 24, 2003, there was no contamination associated with the unit and units closure appears to be protective of human health and the environment, in accordance with the approved closure plan. Thus, the closure performance standards as specified by Ohio Administrative Code Rule 3745-55-11 have been met.

The closure certification was prepared by SAIC, and certified by Michael D. Giordano, P.E. and CHMM, and John C. Fulton, Site Manager, for the Mound Closure Project. The owner/operator certification contained the correct wording as specified in OAC Rule 3745-50-42 (D).

The correspondence address for this facility is:

John Fulton, Site Manager
CH2M Hill, Mound, Inc.
1 Mound Road
P.O. Box 3030
Miamisburg, OH 45343-3030

Environmental Measures

As a result of closure activities, no waste was generated.

There is one unit at this facility that remains subject to closure requirements. Therefore, U.S. DOE Mound Closure Project will retain their TSD status, and remain subject to financial assurance requirements for closure.

Please consider incorporating within your certification letter to Mound representatives a request that the permit application be modified in accordance with OAC 3745-50-51 to reflect the reduction in waste management units at the facility.

Should you have any questions, please feel free to contact me at (937) 285-6070.

cc: Ed Lim, DHWM, CO
Harry Sarvis, DHWM, CO

OHD689000898 4

CH2MHILL
Mound, Inc.

John C. Fulton
Site Manager
3000 Mound Ave.
Miamisburg, OH 45343
(937) 865-4386
fultonjc@doe-md.gov

December 11, 2002

Mr. Thomas Skinner
Regional USEPA Representative
77 W. Jackson Blvd.
Chicago, IL 60604

Dear Mr. Skinner:

As you are aware, the U.S. Department of Energy recently announced the selection of CH2M HILL to complete the accelerated closure and transition of the Miamisburg Closure Project (MCP). As the Site Manager for CH2M HILL Mound, Inc., I will be responsible and accountable for ensuring the safe, on-time closure and transition of the former Mound plant by March 31, 2006.

For the MCP to be successful, however, all interested parties need to work collaboratively to achieve the end-state vision for the site. I want you to know that, to this end, my staff and I are committed to partnering with you and your organization to ensure that your concerns are seriously considered and addressed.. CH2M HILL boasts a 56-year history of working closely with clients, regulators and stakeholders. In fact, close partnering with all stakeholders is a fundamental tenet of our corporate Project Delivery System™. Similarly, partnering with you is a fundamental tenet of our approach to completing the Miamisburg Closure Project.

We believe that the working relationships delineated in the *Mound 2000 Approach* are consistent with our corporate philosophy of close partnering with stakeholders to achieve project goals. We will continue to work within the framework of the *Mound 2000 Approach,* and we will work with you to strengthen and improve our partnering relationship. All of us at CH2M HILL, the site workforce, the residents and leaders of Miamisburg, the State of Ohio and the U.S. Department of Energy have a vested interest in cleaning up and transitioning the site safely and as quickly as possible.

Sincerely,

John C. Fulton
Site Manager
CH2M HILL Mound, Inc.

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
Lazarus Government Center
122 S. Front Street
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

August 14, 2001

Re: **U.S. DOE Mound Facility**
Completion of Partial Closure
Buildings 1 & 27 - Filtration Units
OH6 890 008 984

Mr. Oba Vincent
U.S. DOE Mound Facility
P.O. Box 66
Miamisburg, Ohio 45343

Dear Mr. Vincent:

On January 18, 2000, the director of Ohio EPA approved the closure plan for the filtration units in Buildings 1 and 27 at the Mound facility located at One Mound Road, Miamisburg, Ohio 45343. On May 3, 2001, the director received final certification documents from you and Michael P. May, P.E., of SRW Environmental Services, Inc. stating that the filtration units in Buildings 1 and 27 have been closed according to the specifications in the approved closure plan. To verify U.S. DOE's closure activities, Mr. Chris Cotton from Ohio EPA's Southwest District Office, reviewed documents pertaining to the closure of the filtration units in Buildings 1 and 27 and determined that the activities proposed in the closure plan were conducted adequately.

Based on this inspection and review, Ohio EPA has determined that U.S. DOE Mound has closed the hazardous waste filtration units in Buildings 1 and 27 according to the approved closure plan and Rules 3745-66-11 through 3745-66-15 of the Ohio Administrative Code (OAC).

There are two other units at this facility that remain subject to closure requirements. Therefore, U.S. DOE Mound will retain its TSD status.

Although U.S. DOE Mound has satisfied its closure obligations under Ohio's hazardous waste laws, your company may still be required to investigate and possibly clean up contamination of hazardous waste or constituents from any waste management unit at the facility, despite the time at which the waste was placed in the unit. This obligation to investigate and possibly clean up contamination from past activities is also known as RCRA Corrective Action.

If you have any questions concerning the closure process or the status of the facility, please contact Chris Cotton by phone at (937) 285-6093. His mailing address is Ohio EPA, Southwest District Office, Attn: Chris Cotton, 401 East 5th Street, Dayton, Ohio 45402.

Sincerely,

Pamela S. Allen

Pamela S. Allen, Manager
Information Technologies and Technical Support Section
Division of Hazardous Waste Management

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cc: Jeremy Carroll, DHWM, CO
Harry Sarvis, DHWM, CO
Harriet Croke, USEPA, Region 5 ✓
Chris Cotton, DHWM, SWDO
file

OhioEPA
State of Ohio Environmental Protection Agency

P.O. Box 1049, 1800 WaterMark Dr.
Columbus, Ohio 43266-0149
14) 644-3020
AX (614) 644-2329

George V. Voinovich
Governor

Donald R. Schregardus
Director

Certified Mail
Return Receipt Requested

Re: Notice of Deficiency
Amended Closure Plan
U. S. DOE - Mound
OH6 890 008 984
05-57-0677

May 26, 1999

Mr. Oba Vincent
U.S. DOE Mound Facility
P.O. Box 66
Miamisburg, Ohio 45343

Dear Mr. Vincent:

On February 9, 1998, Ohio EPA received from U.S. DOE - Mound an amended closure plan for the Burn Area located at One Mound Road, Miamisburg, Ohio.

The owner or operator and the public were given the opportunity to submit written comments regarding the amended closure plan in accordance with OAC Rule 3745-66-12. The public comment period extended from March 23, 1998 through April 29, 1998. No public comments were received by Ohio EPA.

The Ohio EPA, Division of Hazardous Waste Management (DHWM) has conducted a review of the above referenced closure plan, and has determined it to be incomplete and technically inadequate.

We have enclosed, as an attachment to this correspondence, detailed deficiency comments on the closure plan. Please provide a revised closure plan addressing all areas indicated in the deficiency comments. OAC Rule 3745-66-12 requires that such a revised amended closure plan be submitted to the Director of the Ohio EPA for approval within thirty (30) days of the receipt of this letter.

The revised amended closure plan shall be prepared in accordance with the following editorial protocol or convention:

1. Old Language is over-struck, but not obliterated.

2. New Language is capitalized.

3. Page headers should indicate date of submission.

4. If significant changes are necessary, pages should be re-numbered, table of contents revised, and complete sections provided as required.

The revised amended closure plan should be submitted to: Ohio Environmental Protection Agency, Division of Hazardous Waste Management, Attn: Tom Crepeau, Manager, Data Management Section, P.O. Box 1049, Columbus, Ohio 43216-1049. A copy should also be sent to: Pat Willoughby, Ohio EPA, Southwest District Office, 401 E. 5th St., Dayton, Ohio.

The Ohio EPA will, pursuant to OAC Rule 3745-66-12, review the re-submitted plan and issue a final action approving or modifying the plan. Ohio EPA's final action on the re-submitted plan is appealable to the Environmental Review and Appeals Commission.

If you wish to arrange a meeting to discuss your responses to this Notice of Deficiency, please contact Pat Willoughby, at (937) 285-6092.

Sincerely,

Donald S. Marshall, Manager
Division of Hazardous Waste Management
Southwest District Office

cc: Tom Crepeau, DHWM, Central File, Ohio EPA
Harriet Croke, U.S. EPA, Region V
Ed Lim, Manager, Engineering & Risk Assessment Section, CO, Ohio EPA
Pat Willoughby, DHWM/SWDO
Chris Budich, DHWM/SWDO

ATTACHMENT 1

Comment:

In conjunction with the use of industrial exposure scenarios for determining the risk posed from residual contamination at the former Burn Area, Ohio EPA will require that Mound representatives agree to:

a) commit to ensuring that the area will be restricted for the purpose of industrial use during the period in which Mound maintains ownership of the property; and;

b) include within the closure plan a commitment to impose appropriate land use restrictions (i.e. deed restriction) to the location in which the unit was formerly operated.

Mound officials have indicated the following, located within Section 4.4, on page 29 of the amended closure plan, in attempting to address such restrictions:

"Deed restrictions will be put in place to include the Burn Area"

Ohio EPA requests that DOE Mound officials revise the amended closure plan submittal by supplying specific information on:

1) the proposed process and associated legal mechanism which will be pursued to ensure that land-use restrictions which correspond to Mound's application of industrial exposure scenarios when determining risk based remediation standards for closure of the Burn Area.

2) the specific wording to be contained within the deed restriction. Reference to attachment 2 provided indicates the appropriate considerations which need to be addressed within the deed restriction. Initially, such information should be supplied as an appendix to the amended closure plan. In the event of an ownership transaction involving the property, Mound representatives will be required to submit a copy of the deed to Ohio EPA within 30 days of filing the property conveyance with local authorities.

Please note that specific information pertaining the unit (e.g., description, geographic coordinates, etc.) must be indicated within deed restriction.

ATTACHMENT 2

The Grantor, United States Department of Energy - Mound hereby provides public notice about, and imposes restrictions on, the following described real estate which is a sub parcel of the Property **[or whatever term is used in the deed to define the property under ownership]**, which sub parcel shall hereinafter be referred to as the "Burn Area," more particularly described as follows:

[metes and bounds definition of the Area]

1. In consideration for the Director of Ohio EPA's _____, 19__ approval of Grantor's Hazardous Waste Closure Plan for the Burn Area, Grantor agreed to impose certain restrictions on the Burn Area and comply with the covenants, terms and conditions related thereto.

2. Pursuant to this agreement, the Grantor hereby imposes the following restrictions on the Burn Area:

   The Burn Area shall not be used for residential activities, but may be used for industrial activities. The term "residential activities" shall include, but not be limited to, the following:

   (a) Single and multi-family dwelling and rental units;

   (b) Day care centers and preschools;

   (c) Hotels and motels;

   (d) Educational (except as a part of industrial activities within the Burn Area) and religious facilities;

   (e) Restaurants and other food and beverage services (except as a part of industrial activities within the Burn Area);

   (f) Entertainment and recreational facilities (except as a part of industrial activities within the Burn Area);

   (g) Hospitals and other extended care medical facilities; and

   (h) Transient or other residential facilities.

   The term "industrial activities" shall include manufacturing, processing operations and office and warehouse use, including but not limited to production, storage and sales of durable goods and other non-food chain products and parking/driveway use.

3. The covenants, terms, conditions, and restrictions of this instrument shall be binding upon, and inure to the benefit of, the Grantor and the State of Ohio and their respective personal representatives, heirs, successors, assigns and transferees and shall continue as a servitude running in perpetuity with the Burn Area, subject to termination or modification as described below. The term "Grantor," wherever used herein, shall include the person and/or entity named above, identified as "Grantor," and its personal representative, heir, successor, assign and transferee.

4. The Grantor may request written approval for a use of the Burn Area which is not specifically permitted by the restriction set forth above in paragraph 2 by submitting a written petition, via certified mail, to the Director of Ohio EPA for termination or modification of this restriction. Any such request which constitutes a change in the specific prohibition may only be granted by the Director of Ohio EPA, in his sole discretion, based on the standards described below. In such event, the petition for modification or termination shall state the specific provision(s) sought to be modified or terminated and shall further include evidence demonstrating:

   (a) The Burn Area meets Ohio's risk-based closure performance standard in effect at the time of such petition for a residential (or equivalent) land-use scenario; or

   (b) The Burn Area has been sample tested and compared with background samples taken from land surrounding the Burn Area which has been unaffected by past treatment, storage, or disposal of hazardous waste, and such data shows that current conditions present at the Burn Area are not statistically greater than background conditions.

5. The petition for termination or modification will be considered by the Director of Ohio EPA only when it presents new and relevant information not previously considered prior to the imposition of this restriction by the Agency. The Director of Ohio EPA will issue a determination based upon the criteria set forth in paragraph 4 above.

6. For violation or breach of the foregoing use restriction, the Director of Ohio EPA shall have the right to proceed at law or in equity to compel compliance with the terms hereof or to obtain injunctive relief in order to prevent violation or breach of the foregoing use restriction. Failure to timely enforce the foregoing covenant and use restriction by any party shall not bar subsequent enforcement by such party and shall in no manner be deemed a waiver.

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

CERTIFIED MAIL

Re: ***CLOSURE PLAN EXTENSION***
U.S. DOE-Mound
Burn Area
OH6 890 008 984/05-57-0677

March 14, 1997

OHIO E.P.A.
MAR 14 97
ENTERED DIRECTOR'S JOURNAL

Oba L. Vincent
Department of Energy
Ohio Field Office
Miamisburg Area Office
P.O. Box 66
Miamisburg, OH 45343-0066

Dear Mr. Vincent:

On January 23, 1997, U.S. DOE-Mound, located at 1 Mound Road, Miamisburg, Ohio, submitted a request for an extension to the closure period specified in the approved closure plan dated August 16, 1996, for fifty-seven (57) days, until April 10, 1997. The extension request was submitted pursuant to OAC Rule 3745-66-13(B) as closure will require longer than the 180 day period specified in OAC Rule 3745-66-13. U.S. DOE-Mound has requested this extension because several unforeseen delays have occurred having to do with the management of soil and demonlition material.

My staff reviewed your request and recommends that the extension be granted per rule 3745-66-13(B) of the Ohio Administrative Code. I concur and am therefore granting this extension request. This extension is being granted for the above referenced closure plan and expires on April 10, 1997.

U.S. DOE-Mound shall continue to take all steps to prevent a threat to human health and the environment from the unclosed, but inactive waste management unit per OAC Rule 3745-66-13(B)(2).

Please be advised that approval of this closure extension request does not release U.S. DOE-Mound from any responsibilities as required under the Hazardous and Solid Waste Amendments of 1984 regarding corrective action for all releases of hazardous waste or constituents from any solid waste management unit, regardless of the time at which waste was placed in the unit.

When closure is completed, the Ohio Administrative Code Rule 3745-66-15 requires the owner or operator of a facility to submit to the Director of the Ohio EPA certification by the owner or operator and an independent professional engineer that the facility has been closed in accordance with the specifications in the approved closure plan. These certifications shall follow the format specified in OAC 3745-50-42(D),

I hereby certify this to be a true and accurate copy of the
official documents of the Ohio
Environmental Protection Agency.

By: Janie Covert Date 3/14/97

and should be submitted to: Ohio Environmental Protection Agency, Division of Hazardous Waste Management, Attn: Tom Crepeau, Data Management Section, P.O. Box 1049, Columbus, Ohio 43216-1049.

You are hereby notified that this action of the Director is final and may be appealed to the Environmental Review Appeals Commission ("ERAC") pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. If must be filed with the Environmental Review Appeals Commission within thirty (30) days from the receipt of this letter. A copy of the appeal must be served to the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the ERAC. An appeal must be filed at the following address:

Environmental Review Appeals Commission
236 East Town Street
Room 300
Columbus, Ohio 43215

Sincerely,

Donald R. Schregardus
Director

usdoeltr/CLOSURE.ao

cc: Tom Crepeau, DHWM Central File, Ohio EPA
Harriet Croke, Ohio Permit Section, USEPA - Region V
Montee Suleiman, RES, DHWM, Ohio EPA
Pat Willoughby, DHWM, SWDO, Ohio EPA

hwfb
State of Ohio Hazardous Waste Facility Board

1700 WaterMark Drive, P.O. Box 1049
Columbus, Ohio 43216-1049
(614) 644-2742
FAX: (614) 644-3439
(800) 686-1591 (in Ohio only)

September 20, 1996

Ms. Harriet Croke, Chief
Ohio Permitting Section
U.S. EPA
Region 5
77 West Jackson Boulevard
Chicago, IL 60604-3590

Dear Ms. Croke:

Julie Bull requested that I write to inform you that the Board anticipates final action on the U.S. DOE Mound facility in Miamisburg, Ohio at our October 18, 1996 Board meeting. She expects the next case to be acted on will be Chemtron Corporation with final action anticipated at an April 1997 Board Meeting.

If you have any questions or require additional information please do not hesitate to contact us.

Sincerely,

Linda C. Herrli

Linda C. Herrli

Ohio EPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

CLOSURE PLAN APPROVAL

CERTIFIED MAIL

August 16, 1996

Re: *CLOSURE PLAN*
USDOE-MOUND
OH6 890 008 984
05-57-0677

U.S. DOE
Attn: Patricia Brechlin
Miamisburg Area Office
P.O. Box 66
Miamisburg, OH 45342-0066

Dear Ms. Brechlin:

On May 16, 1996, USDOE-Mound submitted to Ohio EPA a closure plan for the burn area located at the USDOE-Mound Plant, Miamisburg, Ohio. The closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that USDOE-Mound's proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the closure plan of USDOE-Mound in accordance with OAC Rule 3745-66-12. No comments were received by Ohio EPA in this matter.

Based upon review of USDOE-Mound's submittal, I conclude that the closure plan for the hazardous waste facility at the USDOE-Mound Plant, Miamisburg, Ohio, as modified herein, meets the performance standard contained in OAC Rule 3745-66-11 and complies with the pertinent parts of OAC Rule 3745-66-12.

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 8-16-96

OHIO E.P.A.
AUG 16 96
ENTERED DIRECTOR'S JOURNAL

The closure plan submitted to Ohio EPA on May 16, 1996, by USDOE-Mound is hereby approved with the following modifications:

1) Section 2.1 on page 14, and section 2.1.2 on page 15 indicates that, "If visible contamination is less than 5% of the total surface area then decontamination will not take place". However this section does not mention any rinseate analysis unless decontamination is required. Mound must perform rinseate analysis to confirm that no decontamination is necessary or that the decontamination efforts have been successful in removing hazardous waste residues to the maximum extent practicable, and that the rinseate standards have been met. The 5% rule applies to the clean debris surface after physical extraction methods have taken place, as decribed in the last paragraph on page 26 of the closure plan guidance. Mound must comply with the rinseate standards that are listed in item 2 of these conditions.

2) Mound indicates in bullet 4 on page 15 that rinseate will be evaluated against a set of criteria that is listed in a table under that same bullet. However, there is no description in this section that describes how those criteria were established. Mound must ensure that the following rinseate standards will be met:

   a) Fifteen times the public drinking water maximum contaminant level (MCL) for hazardous constituents as promulgated in 40 CFR 141.11 and OAC 3745-81-11 for inorganics and 40 CFR 141.12 and OAC 3745-81-12 for organics;

   b) If an MCL is not available for a particular contaminant, then fifteen times the maximum contaminant level goal (MCLG) as promulgated in 40 CFR 141.50 shall be used as the clean standard. If the MCLG is zero, use fifteen times the contaminant's practical quantitation limit in ground water;

   c) If the product of fifteen times the MCL or MCLG exceeds 1 mg/l or if neither an MCL or an MCLG is available for a particular contaminant, 1 mg/l shall be used as the clean standard.

3) Mound must ensure that all pesonnel will be utilyzing necessary personal protective equipment while performing any/all physical closure activities described in the closure plan.

4) Mound must ensure that the ultimate disposition of all metal going to a secondary smelter is conducted in accordance with what is described in the approved closure plan. Mound must also ensure that the units will be rendered useless and that documentation (e.g., sales agreements, shipping papers, receipts, etc.) proving the final destination and disposition of the material must be provided as part of the closure certification.

Please be advised that approval of this closure plan does not release USDOE-Mound from any responsibilities as required under the Hazardous and Solid Waste Amendments of 1984 regarding corrective action for all releases of hazardous waste or constituents from any solid waste management unit, regardless of the time at which waste was placed in the unit.

Notwithstanding compliance with the terms of the closure plan, the Director may, on the basis of any information that there is or has been a release of hazardous waste, hazardous constituents, or hazardous substances into the environment, issue an order pursuant to Section 3734.20 et seq of the Revised Code or Chapters 3734 or 6111 of the Revised Code requiring corrective action or such other response as deemed necessary; or initiate appropriate action; or seek any appropriate legal or equitable remedies to abate pollution or contamination or to protect public health or safety or the environment.

Nothing here shall waive the right of the Director to take action beyond the terms of the closure plan pursuant to the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §9601 et seq., as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499 ("CERCLA") or to take any other action pursuant to applicable Federal or State law, including but not limited to the right to issue a permit with terms and conditions requiring corrective action pursuant to Chapters 3734 or 6111 of the Revised Code; the right to seek injunctive relief, monetary penalties and punitive damages, to undertake any removal, remedial, and/or response action relating to the facility, and to seek recovery for any costs incurred by the Director in undertaking such actions.

Strict compliance with each and every provision of this approved closure plan, especially including the modifications specified herein, is expected. The Ohio EPA will monitor such compliance. The Director expressly reserves the right to take action, pursuant to Chapters 3734 and 6111 of the Revised Code, and other applicable law, to enforce such compliance and to seek appropriate remedies in the event of noncompliance with the provisions and modifications of this approved closure plan.

You are notified that this action of the Director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address: Environmental Board of Review, 236 East Town Street, Room 300, Columbus, Ohio 43266-0557.

OHIO E.P.A.

AUG 16 96

ENTERED DIRECTOR'S JOURNAL

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 8-16-96

When closure is completed, the Ohio Administrative Code Rule 3745-66-15 requires the owner or operator of a facility to submit to the Director of the Ohio EPA certification by the owner or operator and an independent, registered professional engineer licensed to practice in the State of Ohio, that the facility has been closed in accordance with the approved closure plan. The certification by the owner or operator shall include the statement found in OAC 3745-50-42(D). These certifications should be submitted to: Ohio Environmental Protection Agency, Division of Hazardous Waste Management, Attn: Thomas Crepeau, Data Management Section, P.O. Box 1049, Columbus, Ohio 43216-1049.

Sincerely,

Donald R. Schregardus
Director

mound.app/CLOSURE.ao

cc: Tom Crepeau, DHWM Central File, Ohio EPA
Montee Suleiman, DHWM, Ohio EPA
Harriet Croke, USEPA - Region V
Pat Willoughby, SWDO, Ohio EPA

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Mary Cavin Date 8-16-96

OHIO E.P.A.

AUG 16 96

ENTERED DIRECTOR'S JOURNAL

OhioEPA
State of Ohio Environmental Protection Agency

STREET ADDRESS:
800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:
P.O. Box 1049
Columbus, OH 43216-1049

May 31, 1996

Re: Receipt of Partial Closure Plan
U.S. EPA ID No.
OH6890008984

U.S.D.O.E.
Mr. Oba L. Vincent
Miamisburg Area Office
P.O. Box 66
Miamisburg, Ohio 45343-0066

Dear Mr. Vincent:

With this letter the Ohio EPA acknowledges receipt of the hazardous waste partial closure plan submitted by U.S.D.O.E., Mound Plant, in Miamisburg, Ohio. The closure plan concerns the facility's hazardous waste burn area (Magazine 53, Pyroshed, Open Burn Unit, Retort Unit, Energetic Materials Pretreatment Unit, and Thermal Treatment Unit). A public notice concerning receipt of this plan will appear the week of June 3, 1996 in the legal notice section of the Dayton Daily News. The Director of Ohio EPA will act upon the plan after the close of the public comment period on July 8, 1996.

A copy of the partial closure plan will be available for public review at the Dayton and Montgomery County Public Library, Miamisburg Branch, 35 S. Central Street, Miamisburg, Ohio 45342, and at the Ohio EPA, Southwest District Office, 401 E. Fifth Street, Dayton, Ohio 45402, tel: (513) 285-6357.

Please contact Pat Willoughby of the Southwest District Office if you have any questions on this matter.

Sincerely,

Vanessa Gregory

Vanessa Gregory, Management Analyst
Data Management Section
Division of Hazardous Waste Management

cc: Harriet Croke, U.S. EPA, Region 5
Montee Suleiman, DHWM
Pat Willoughby, SWDO

PUBLIC NOTICE

MONTGOMERY COUNTY

NOTICE OF RECEIPT OF HAZARDOUS WASTE PARTIAL CLOSURE PLAN

Notice is hereby given of the receipt on May 21, 1996 of a hazardous waste partial closure plan from U.S.D.O.E. - Mound Plant, Mound Road, Miamisburg, Ohio 45343, U.S. EPA I.D. No. OH6890008984. The plan concerns the hazardous waste burn area (Magazine 53, Pyroshed, Open Burn Unit, Retort Unit, Energetic Materials Pretreatment Unit, and the Thermal Treatment Unit) at the site indicated above. A copy of the facility's partial closure plan will be available for public review at the Dayton and Montgomery County Public Library, Miamisburg Branch, 35 S. Central Street, Miamisburg, Ohio 45342, and at the Ohio EPA, Southwest District Office, 401 E. Fifth Street, Dayton, Ohio 45402, tel: (513) 285-6357. Comments concerning the partial closure plan may be submitted within 30 days of this notice to the Ohio EPA, Division of Hazardous Waste Management, Attn: Data Management Section, P.O. Box 1049, 1800 Watermark Dr., Columbus, Ohio 43216-1049, tel: (614) 644-2977.

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

August 22, 1986

Mr. Don Marshall
Ohio Environmental Protection Agency
Southwest District Office
7 East Fourth Street
Dayton, Ohio 45402-2086

Dear Mr. Marshall:

On August 8, 1986, OEPA approved Mound's partial closure plan for closing our former storage facility for containerized hazardous waste. The OEPA also requested that soil sampling and analysis be conducted around the base of the facility and that soil containing detectable amounts of halogenated volatile organic compounds be considered contaminated.

Mound has sampled the soil, removed contaminated soil, and resampled the newly exposed soil, which was found to contain no detectable halogenated volatile organic compounds. All closure-related work requested by OEPA has been completed, as summarized in the attachment.

We formally request that our former hazardous waste storage facility be considered closed and that such closure be acknowledged in writing by OEPA.

Please forward a copy of this correspondence to:

Ohio Environmental Protection Agency
Division of Solid and Hazardous Waste Management
Attention: Thomas E. Crepeau, Manager
Data Management Section
P. O. Box 1049
Columbus, Ohio 43266-0149

Sincerely,

for James A. Morley
Area Manager

cc: R. Blauvelt, MRC, w/attach.

ACTIONS COMPLETED FOR CLOSURE
OF
FORMER HAZARDOUS WASTE STORAGE FACILITY

To allow the construction of needed facilities, the former hazardous waste storage facility (Bldg. 72) had to be relocated to another area of our site. The old unit was closed and a new facility of equivalent capacity was constructed. The partial closure plan approved by the Ohio EPA was followed to the extent necessary, as determined by the findings during the closure process. The following actions were completed:

1. Some of the waste formerly stored in the old unit was shipped offsite for disposal while the remainder was placed in the relocated storage facility.

2. The diked concrete bays where waste was formerly stored, the electrical service, and the steel roof-support beams of the former facility were examined for evidence of contamination but none was found. Occasional discolorations or stains were observed and found to be superficial. Decontamination of the old facility was not necessary. No major cracks or evidence of waste penetration through the concrete was noted. We plan to remove and landfill the concrete base, after closure is considered completed.

3. A small concrete floor sump, located in a small diked area in one corner of the old facility, was found to be partially full of essentially rainwater. The sump liquid was removed and containerized for future analysis and disposal. No cracks or other evidence of waste penetration through the sump walls or base was noted. Stains on the sump concrete were superficial.

4. Ohio EPA's letter of August 8, 1985, requested that soil sampling and analysis be conducted around the former storage facility. On September 5, 1985, soil samples from each side of the building were composited and analyzed using prescribed EPA test methods. Soil analytical results and quality control data are provided in the enclosed Bowser-Morner letter dated April 15, 1986.

5. Based on the data reported by Bowser-Morner and the criterion established by OEPA for contaminated soil, we removed and containerized some of the soil adjacent to the west, east, and south sides of old Bldg. 72 on February 7, 1986. In addition, we had confirmatory samples taken of the newly exposed and formerly underlying soil. Analytical data, shown in Bowser-Morner's letter dated April 18, 1986, indicated that no halogenated volatile organic compounds were detected.

6. The results of the sampling and analysis of soil from three sides of the former storage facility were presented to Mr. Don Marshall of the OEPA Southwest District Office during a meeting at Mound on May 9, 1986. Mr. Marshall requested that the soil adjacent to the fourth (north) side of the facility also be removed and that the newly exposed underlying soil be resampled. This was completed on July 1, 1986. Analytical results, shown in Bowser-Morner's letter dated July 31, 1986, show that no halogenated volatile organic compounds were detected.

C E R T I F I C A T I O N

I certify that the former waste storage facility (Bldg. 72) has been closed in accordance with the approved partial closure plan as noted above.

8/8/86
Date

Fredrick G. Krach
Fredrick G. Krach
Registered Professional Engineer

BOWSER-MORNER, INC.

CORPORATE: 420 Davis Ave. • P.O. Box 51 • Dayton, OH 45401 • 513/253-8805
TOLEDO DISTRICT: 122 S. St. Clair St. • P.O. Box 838 • Toledo, OH 43696 • 419/255-8200

LABORATORY REPORT

Report to: Monsanto Research Corporation
P. O. Box 32
Miamisburg, OH 45342
Attn: Mr. Rick Hampel

Date: July 31, 1986
Laboratory No.: S070139
Authorization:

Report on: Four (4) Soil Samples from One (1) Location Received for Compositing and Analysis of Halogenated Volatile Organic Compounds, on July 1, 1986.

SAMPLE IDENTIFICATION:

The sample location was identified as North Bldg. 72.

ANALYTICAL METHOD:

The sample was analyzed by Method 8010 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods," EPA SW-846.

TEST RESULTS:

No compounds were detected; the detection limits for all compounds ranged from 0.05 mg/kg to 1.00 mg/kg. Specifically, 1,1,1-trichloroethane was not detected; the detection limit was 0.10 mg/kg.

QUALITY ASSURANCE:

To the composited sample, known concentrations of seven (7) organic compounds were added. The percent recoveries for each compound in the composite sample are given in the following table.

	% Recovery
1,1-dichloroethane	123
1,2-dichloroethane	123
1,1-dichloroethylene	57
Trans-1,2-dichloroethylene	107
1,1,1-trichloroethane	120
Trichloroethylene	141

- Continued -

Replicate analysis performed on the composited sample indicated no compounds were detectable.

Respectfully Submitted,

BOWSER-MORNER, INC.

James M. Kemper

James M. Kemper
Chemist
Analytical Sciences Division

JMK/lu
1-Client
2-File

All samples recovered for this project will be retained at this laboratory for a period of 30 days unless we are informed to the contrary.

BOWSER MORNER

BOWSER-MORNER, INC.

CORPORATE: 420 Davis Ave. • P.O. Box 51 • Dayton, OH 45401 • 513/253-8805
TOLEDO DISTRICT: 122 S. St. Clair St. • P.O. Box 838 • Toledo, OH 43696 • 419/255-8200

REVISED LABORATORY REPORT

Report to: Monsanto Research Corporation
P. O. Box 32
Miamisburg, Ohio 45342
Attn: Mr. Rick Hampel

Date: April 15, 1986
Laboratory No.: R 090643
Authorization:

Report on: Four (4) Soil Samples from each of Four (4) locations received for compositing and analysis of halogenated volatile organic compounds, on September 6, 1985.

SAMPLE IDENTIFICATION:

The sampling locations were identified as;

North Bldg. 72
South Bldg. 72
East Bldg. 72
West Bldg. 72

ANALYTICAL METHODS:

The samples were analyzed by method 8010 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" EPA SW-846.

TEST RESULTS:

The composite samples are listed one at a time, with the compounds detected and the concentrations of compounds detected.

1. North Bldg. 72 Composite Sample - 1,1,1-trichloroethane 0.500 mg/kg
   No other compounds detected.

2. South Bldg. 72 Composite Sample - 1,1,1-trichloroethane 0.750 mg/kg
   Trichloroethene 0.813 mg/kg

3. East Bldg. 72 Composite Sample - 1,1,1-trichloroethane 18.0 mg/kg
   Trichloroethene 7.56 mg/kg

4. West Bldg. 72 Composite Sample - 1,1,1-trichloroethane 0.438 mg/kg
   Trichloroethene 4.00 mg/kg

- continued -

The remaining compounds listed in Method 8010 were not detected in the samples. The detection limit for all compounds was 0.3 mg/kg.

QUALITY ASSURANCE:

To each of the composited samples, known concentrations of three organic compounds were added. The percent recoveries for each compound in the composite samples are given in the following table.

	North Bldg. 72 Composite	South Bldg. 72 Composite	East Bldg. 72 Composite	West Bldg. 72 Composite
Bromochloromethane	103	106	108	100
2-Bromo-1-chloropropane	79	99	108	108
1,4-dichlorobutane	89	95	84	91

Respectfully Submitted,

BOWSER-MORNER, INC.

James M. Kemper

James M. Kemper, Chemist
Analytical Sciences Division

1-Client
2-File
JMK/pc

All samples recovered for this project will be retained at this laboratory for a period of 30 days unless we are informed to the contrary.

BOWSER-MORNER, INC.

CORPORATE: 420 Davis Ave. • P.O. Box 51 • Dayton, OH 45401 • 513/253-8805
TOLEDO DISTRICT: 122 S. St. Clair St. • P.O. Box 838 • Toledo, OH 43696 • 419/255-8200

LABORATORY REPORT

Report to: Monsanto Research Corporation
P. O. Box 32
Miamisburg, Ohio 45342
Attn: Mr. Rick Hampel

Date: April 18, 1986
Laboratory No.: S 021046
Authorization:

Report on: Four (4) Soil Samples from each of Three (3) locations received for compositing and analysis of halogenated volatile organic compounds, on February 7, 1986.

SAMPLE IDENTIFICATION:

The sampling locations were identified as;

South Bldg. 72
East Bldg. 72
West Bldg. 72

ANALYTICAL METHODS:

The samples were analyzed by method 8010 in "Test Methods for the Evaluation of Solid Waste, Physical/Chemical Methods" EPA SW-846.

TEST RESULTS:

No compounds were detected; the detection limits for all compounds ranged from 0.05 mg/kg to 1.00 mg/kg. Specifically, 1,1,1-trichloroethane and trichloroethene were not detected; detection limits were 0.10 mg/kg.

QUALITY ASSURANCE:

To one of the composited samples, known concentrations of four organic compounds were added. The percent recoveries for each compound in the composite sample are given in the following table.

	% Recovery
Benzyl Chloride	68
Chlorobenzene	69
1,3 Dichlorobenzene	72
Chlorotoluene	74

Replicate analysis performed on one of the composited samples indicated no compounds were detectable.

Respectfully Submitted,

BOWSER-MORNER, INC.
James M. Kemper
James M. Kemper, Chemist
Analytical Sciences Division

-Client
2-File
JMK/pc

BOWSER-MORNER
HALOGENATED VOLATILE ORGANICS
DATE RECEIVED 2/11/86
REPLICATE AND SPIKE ANALYSIS

ATEC SAMPLE NO. SAMPLE DESCRIPTION	ANALYSIS #1	ANALYSIS #2	AMOUNT SPIKED	AMOUNT RECOVERED	% RECOVERY
BENZYL CHLORIDE	< 0.05	< 0.05	0.22	0.15	68.00
BIS(2-CHLOROETHOXY)METHANE	< 0.10	< 0.10	------	------	------
BIS(2-CHLOROISOPROPYL)ETHER	< 0.10	< 0.10	------	------	------
BROMOBENZENE	< 0.05	< 0.05	------	------	------
BROMODICHLOROMETHANE	< 0.10	< 0.10	------	------	------
BROMOFORM	< 0.10	< 0.10	------	------	------
BROMOMETHANE	< 1.00	< 1.00	------	------	------
CARBON TETRACHLORIDE	< 0.10	< 0.10	------	------	------
CHLORACETALDEHYDE	< 0.10	< 0.10	------	------	------
CHLORAL	< 0.10	< 0.10	------	------	------
CHLOROBENZENE	< 0.05	< 0.05	0.59	0.41	69.00
CHLOROETHANE	< 1.00	< 1.00	------	------	------
CHLOROFORM	< 0.10	< 0.10	------	------	------
1-CHLOROHEXANE	< 0.05	< 0.05	------	------	------
2-CHLOROETHYL VINYL ETHER	< 0.10	< 0.10	------	------	------
CHLOROMETHANE	< 1.00	< 1.00	------	------	------
CHLOROMETHYL METHYL ETHER	< 0.10	< 0.10	------	------	------
CHLOROTOLUENE	< 0.05	< 0.05	0.62	0.46	74.00
DIBROMOCHLOROMETHANE	< 0.10	< 0.10	------	------	------
DIBROMOMETHANE	< 1.00	< 1.00	------	------	------
1,2-DICHLOROBENZENE	< 0.05	< 0.05	------	------	------
1,3-DICHLOROBENZENE	< 0.05	< 0.05	0.98	0.71	72.00
1,4-DICHLOROBENZENE	< 0.05	< 0.05	------	------	------
DICHLORODIFLUOROMETHANE	< 0.10	< 0.10	------	------	------
1,1-DICHLOROETHANE	< 0.10	< 0.10	------	------	------
1,2-DICHLOROETHANE	< 0.10	< 0.10	------	------	------
1,1-DICHLOROETHYLENE	< 0.10	< 0.10	------	------	------
TRANS-1,2-DICHLOROETHYLENE	< 0.10	< 0.10	------	------	------
DICHLOROMETHANE	< 0.10	< 0.10	------	------	------
1,2-DICHLOROPROPANE	< 0.10	< 0.10	------	------	------
1,3-DICHLOROPROPYLENE	< 0.10	< 0.10	------	------	------
1,1,2,2-TETRACHLOROETHANE	< 0.10	< 0.10	------	------	------
1,1,1,2-TETRACHLOROETHANE	< 0.10	< 0.10	------	------	------
TETRACHLOROETHYLENE	< 0.10	< 0.10	------	------	------
1,1,1-TRICHLOROETHANE	< 0.10	< 0.10	------	------	------
1,1,2-TRICHLOROETHANE	< 0.10	< 0.10	------	------	------
TRICHLOROETHYLENE	< 0.10	< 0.10	------	------	------
TRICHLOROFLUOROMETHANE	< 0.10	< 0.10	------	------	------
TRICHLOROPROPANE	< 0.10	< 0.10	------	------	------
VINYL CHLORIDE	< 1.00	< 1.00	------	------	------

ALL RESULTS EXPRESSED AS MG/KG.

BOWSER-MORNER
HALOGENATED VOLATILE ORGANICS
DATE RECEIVED 2/11/86

ATEC SAMPLE NO.	10261	10262	10263
SAMPLE DESCRIPTION	EAST	WEST	SOUTH
BENZYL CHLORIDE	< 0.05	< 0.05	< 0.05
BIS(2-CHLOROETHOXY)METHANE	< 0.10	< 0.10	< 0.10
BIS(2-CHLOROISOPROPYL)ETHER	< 0.10	< 0.10	< 0.10
BROMOBENZENE	< 0.05	< 0.05	< 0.05
BROMODICHLOROMETHANE	< 0.10	< 0.10	< 0.10
BROMOFORM	< 0.10	< 0.10	< 0.10
BROMOMETHANE	< 1.00	< 1.00	< 1.00
CARBON TETRACHLORIDE	< 0.10	< 0.10	< 0.10
CHLORACETALDEHYDE	< 0.10	< 0.10	< 0.10
CHLORAL	< 0.10	< 0.10	< 0.10
CHLOROBENZENE	< 0.05	< 0.05	< 0.05
CHLOROETHANE	< 1.00	< 1.00	< 1.00
CHLOROFORM	< 0.10	< 0.10	< 0.10
1-CHLOROHEXANE	< 0.05	< 0.05	< 0.05
2-CHLOROETHYL VINYL ETHER	< 0.10	< 0.10	< 0.10
CHLOROMETHANE	< 1.00	< 1.00	< 1.00
CHLOROMETHYL METHYL ETHER	< 0.10	< 0.10	< 0.10
CHLOROTOLUENE	< 0.05	< 0.05	< 0.05
DIBROMOCHLOROMETHANE	< 0.10	< 0.10	< 0.10
DIBROMOMETHANE	< 1.00	< 1.00	< 1.00
1,2-DICHLOROBENZENE	< 0.05	< 0.05	< 0.05
1,3-DICHLOROBENZENE	< 0.05	< 0.05	< 0.05
1,4-DICHLOROBENZENE	< 0.05	< 0.05	< 0.05
DICHLORODIFLUOROMETHANE	< 0.10	< 0.10	< 0.10
1,1-DICHLOROETHANE	< 0.10	< 0.10	< 0.10
1,2-DICHLOROETHANE	< 0.10	< 0.10	< 0.10
1,1-DICHLOROETHYLENE	< 0.10	< 0.10	< 0.10
TRANS-1,2-DICHLOROETHYLENE	< 0.10	< 0.10	< 0.10
DICHLOROMETHANE	< 0.10	< 0.10	< 0.10
1,2-DICHLOROPROPANE	< 0.10	< 0.10	< 0.10
1,3-DICHLOROPROPYLENE	< 0.10	< 0.10	< 0.10
1,1,2,2-TETRACHLOROETHANE	< 0.10	< 0.10	< 0.10
1,1,1,2-TETRACHLOROETHANE	< 0.10	< 0.10	< 0.10
TETRACHLOROETHYLENE	< 0.10	< 0.10	< 0.10
1,1,1-TRICHLOROETHANE	< 0.10	< 0.10	< 0.10
1,1,2-TRICHLOROETHANE	< 0.10	< 0.10	< 0.10
TRICHLOROETHYLENE	< 0.10	< 0.10	< 0.10
TRICHLOROFLUOROMETHANE	< 0.10	< 0.10	< 0.10
TRICHLOROPROPANE	< 0.10	< 0.10	< 0.10
VINYL CHLORIDE	< 1.00	< 1.00	< 1.00

ALL RESULTS EXPRESSED AS MG/KG.

OhioEPA

August 8, 1985

Mr. James Morley
Area Manager
Department of Energy
P.O. Box 66
Miamisburg, Ohio 45342

Mr. Morley:

~~OHD~~ OH6890008984 G, TR, TSD, PA

SUBJECT: U.S. Department of Energy, Mound Facility (05-57-0677)

On January 24, 1985, the U.S. Department of Energy, Mound Facility, submitted to Ohio EPA a partial closure plan for the hazardous waste storage area on Mound Road, Miamisburg, Ohio. The partial closure plan was submitted pursuant to Rule 3745-66-12 of the Ohio Administrative Code (OAC) in order to demonstrate that U.S. DOE, Mound's proposal for closure complies with the requirements of OAC Rules 3745-66-11 and 3745-66-12.

The public was given the opportunity to submit written comments regarding the partial closure plan of U.S. DOE, Mound in accordance with OAC Rule 3745-66-12. No comments were received by Ohio EPA in this matter.

Based upon review of the company's submittal, I conclude that the closure plan for the hazardous waste facility at U.S. DOE, Mound meets the performance standard contained in OAC Rule 3745-66-11 and complies with the pertinent parts of OAC Rule 3745-66-12.

The closure plan submitted to Ohio EPA U.S. DOE, Mound is hereby approved, with the following conditions:

(1) Soil samples should be taken from near the edges of the drum storage area's concrete. Samples should be taken at a depth of 0-6 inches. At least one composite soil sample should be taken on each of the four sides of the storage area. Each composite sample should be composed of a minimum of four grab samples.

(2) At a minimum, analyses should be conducted for halogenated volatile organics as in U.S. EPA's "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (SW-846).

(3) Soils with concentrations of these compounds above the detection limit as defined by SW-846 methods shall be considered to be contaminated with hazardous waste.

You are notified that this action of the Director is final and may be appealed to the Environmental Board of Review pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. It must be filed with the Environmental Board of Review within thirty (30) days after notice of the Director's action. A copy of the appeal must be served on the Director of the Ohio Environmental Protection Agency and the Environmental Enforcement Section of the Office of the Attorney General within three (3) days of filing with the Board. An appeal may be filed with the Environmental Board of Review at the following address:

Environmental Board of Review
250 East Town Street
Room 101
Columbus, Ohio 43266-0557

When closure is completed, the Ohio Administrative Code Rule 3745-66-15 requires the owner or operator of a facility to submit to the Director of the Ohio EPA certification by the owner or operator and a registered professional engineer that the facility has been closed in accordance with the approved closure plan. These certifications should be submitted to:

Ohio Environmental Protection Agency
Division of Solid and Hazardous Waste Management
Atttn: Thomas E. Crepeau, Manager
Data Management Section
P.O. Box 1049
Columbus, Ohio 43266-0149

Ohio Environmental Protection Agency
ENTERED DIRECTOR'S JOURNAL
AUG 8 1985

Warren W. Tyler

AS/sc

cc: Tom Crepeau, DSHWM
Tom Carlisle, DSHWM
Chris Bowers, DSHWM
Dan Banaszek, U.S. EPA, Region V
Rebecca Strom, U.S. EPA, Region V
Don Marshall, SWDO, Ohio EPA

I certify this to be a true and accurate copy of the official document as filed in the records of the Ohio Environmental Protection Agency.

By: Vivian Davis Date 8/8/85

CERTIFIED MAIL

1306U

OH6 890008984
G, TRS, TSD, PA

February 1, 1985

Mr. Harry N. Hill
Area Manager
U.S. Department of Energy
P.O. Box 66
Miamisburg, Ohio 45342

Dear Mr. Hill:

A public notice acknowledging the Ohio EPA's receipt of a closure plan for U.S. Department of Energy in Miamisburg, will appear the week of February 4, 1985, in the Dayton Daily News. The Director of the Ohio EPA will act upon the closure plan request following the close of the public comment period, March 6, 1985.

Copies of the closure plan will be available for public review at the Dayton & Montgomery County Public Library, 215 E. Third St., Dayton and the Ohio EPA, Southwest District Office, 7 E. Fourth Street, Dayton, Ohio.

Please contact me at (614) 462-6731 if you have any questions concerning this matter.

Very truly yours,

Thomas E. Crepeau

Thomas E. Crepeau, Manager
Data Management Section
Division of Solid & Hazardous Waste Management

TEC/dhs

cc: James Mayka, U.S. EPA, Region V
Rebecca Strom, RCRA Activities, Region V w/attachment
Don Marshall, SWDO

State of Ohio Environmental Protection Agency
361 E. Broad St., Columbus, Ohio 43216-1049, (614) 466-8565

Department of Energy
Albuquerque Operations
Dayton Area Office
P.O. Box 66
Miamisburg, Ohio 45342

January 18, 1985

Mr. Tom Crepeau
Permits and Manifest Records Section
Division of Hazardous Materials Management
Ohio Environmental Protection Agency
361 E. Broad Street
Columbus, Ohio 43215

Dear Mr. Crepeau:

To provide space for new construction needed for a current DOE program we find it necessary to relocate our hazardous waste storage facility to another area on our site property. We expect to construct during 1985 a new storage facility equivalent in size to our existing unit. We plan to close the existing facility in accordance with the enclosed Closure Plan which is submitted for your review and approval. Your assistance in identifying the appropriate statutes and regulations that describe the compliance requirements for the construction and operation of the relocated facility will be appreciated.

Our present storage facility has been in use only since 1982 and we have observed no evidence of contamination of the structural materials. For these reasons we do not anticipate an extensive decontamination effort. However, we will complete any work necessary to achieve the stated performance standards.

Briefly stated, we will dismantle the structural steel and roof, and break up the concrete slab, which will be used for on-site landfill if no contamination is found during dismantling. A new concrete pad, having the same overall dimensions as the present facility, will be poured at the new location. The structural steel and roofing from the current facility will be installed on the new concrete pad. Side panels and floor grading will be added.

Because we are relocating our waste storage facility and not phasing out the waste storage activity at this site, and because we must proceed soon with the construction of a new building at the site of our current storage facility, we must request your expeditious approval of our Closure Plan so that dismantling of the present facility can proceed promptly.

Due to the urgency of relocating this structure and since the construction of the relocated facility is of the same type, size, etc., we ask your consideration in waiving the need for a six-month notification/waiting period, local newspaper notification and public hearing. This request has been previously coordinated with Mr. Don Marshall, Southwest District Office, Ohio EPA.

We sincerely appreciate your cooperation in helping this facility respond in a timely manner to essential DOE program requirements. If you have any questions, please contact D. S. Ingle, DAO Safety Manager at (513) 865-3597.

Sincerely,

for R. M. Munson

Harry N Hill
Area Manager

Attachments: 2 cys Closure Plan

cc: D. Marshall, OEPA, w/cy
R. K. Blauvelt, MRC, w/o cy
R. A. Neff, MRC, w/o cy

A.4.2

Enclosure 1

CLOSURE PLAN FOR BUILDING 72 STORAGE FACILITY

1. PROCEDURE

We plan to close the hazardous waste storage facility (Bldg. 72 located near Bldg. 19) at Mound during 2011.

Performance Standard - The hazardous waste storage facility will be closed in a manner that minimizes the need for further maintenance and that controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste or constituents or decomposition products to the atmosphere, surface water, and ground water.

Facility Conditions - Hazardous wastes generated at the site are mostly ignitable and corrosive liquids and waste oils, although other liquid and solid wastes also are produced. Wastes are stored principally in 55-gallon drums.

The composition of virtually all hazardous waste generated at this site is known from process conditions; hence, hazardous waste characterization is accomplished mostly by declaration instead of chemical analysis. However, chemical analyses will be conducted to identify unknown wastes.

Upon receipt of approval of our Closure Plan, the closure schedule will be initiated. All hazardous waste in storage will be sent offsite for disposal within 90 days after approval of the Closure Plan or after receipt of the final volume of waste, whichever is later. All of the closure activities described in this plan will be completed within six months after approval of the Closure Plan.

Estimated Maximum Waste Inventory in Storage - Based on current and projected wastes generated at this site, we estimate a maximum inventory of 20,000 pounds of wastes in storage at any given time during the life of our storage facility.

Removal of Inventory - All hazardous waste to be shipped offsite for disposal will be sent to an EPA-approved facility. Containerized hazardous waste will be shipped from storage if the existing containers are deemed to be satisfactory for shipment. If the storage containers are defective, the wastes will be placed in larger containers of acceptable quality for transportation to an offsite disposal facility.

Decontamination of the Facility - Our container storage facility will be decontaminated at closure by removing all hazardous waste and residues from equipment and structures. We will complete to the extent necessary the steps listed below and described in subsequent paragraphs.

(1) Identify which items are contaminated and determine the nature and extent of contamination.

(2) Select appropriate cleaning procedures including equipment and media.

(3) Decontaminate items; collect and containerize cleaning fluids and residues for offsite disposal; conduct sampling and analysis to show that contamination no longer exists.

(4) Send for offsite disposal those items that cannot be properly decontaminated.

o Identification of Waste to be Removed

We will identify the items to be decontaminated from our knowledge of past storage practices and operations involving hazardous wastes. We will visually inspect the identified items to determine the nature and extent of contamination. Under natural light, discolorations, stains, corrosive effects and visible dirt may indicate the presence of contaminants. In addition, samples of contaminating waste will be taken and analyzed to identify or confirm waste composition or characteristics.

o Cleaning Media, Equipment and Procedures

We will refer to the CRC Handbook of Chemistry and Physics for information on solvents for specific waste compositions or components in order to select appropriate cleaning media for removing soluble wastes from items. Wastes soluble in water will be removed from items by flushing with water, then washing the items with soap and water. Organic solvents will be used as needed to dissolve and remove wastes from items; such items will then be washed with soap and water to remove any organic residues. Special cleaning liquids will be used if deemed necessary on the basis of unusual solubility characteristics of the waste involved. Acidic and basic wastes will be neutralized to convert them into a safe, deactivated state.

The following cleaning procedures are representative of those that will be used for decontamination of the storage facility and associated equipment at closure: 1) washing with soap and water, 2) solvent flushing, 3) hydraulic scouring and blasting, 4) steam blasting, and 5) manual or mechanical removal of waste by scrubbing/scraping followed by solvent cleaning. After decontamination, we will sample all equipment, structures and surfaces and analyze such samples for evidence of residual hazardous wastes. If no residual hazardous waste is found, the item will be considered to have been adequately decontaminated. If organic hazardous waste is evident, additional cleaning will be

completed until waste constituents in a representative sample are below detection levels. If a heavy metals waste is evident, additional cleaning will be completed until such constituents in a representative sample are not significantly greater than background levels.

Cleaning will be completed using various types of equipment including 1) drums and other large containers for collecting waste fluids and residues, 2) any contaminated vessel, piping, etc. itself, 3) hoses, portable pumps and vacuum equipment, and 4) hand tools, shovels and earth-moving equipment for dirt removal. For example, small items (such as contaminated pumps) can be placed in a drum or large container for decontamination. If any installed equipment (such as piping and vessels) must be decontaminated in place, containers will be placed at the equipment outlet to collect cleaning fluids. If a large undiked surface (such as the drum holding area) is to be cleaned, small dam-like structures or plastic overlays will be placed on the surfaces to control the flow of cleaning fluids, which will be removed from the surface by vacuum or mopping and placed into containers for disposal. All empty containers previously used for hazardous waste storage will be decontaminated for re-use or shipped offsite for disposal. Hazardous waste residues from the decontamination procedure also will be sent offsite for disposal.

We will determine the potential for penetration of waste into the concrete structure and the underlying and adjacent soil owing to leaks or spills. Cracks and damage to the diked enclosures will be carefully examined for evidence of penetration. If severe contamination is observed and found to be beyond the possibility of satisfactory decontamination, the concrete area will be broken into pieces, removed, and shipped offsite for disposal in a landfill. If no contamination is found, the concrete will be removed and may be landfilled onsite. If contaminated soil is found below the pad or elsewhere, soil samples will be taken and analyzed to determine the extent of contamination.

If the soil is found to be contaminated with organic hazardous waste, that soil will be excavated, containerized, and sent for offsite disposal; the newly exposed soil will be sampled, analyzed and removed until the new soil shows no detectable organics. If the soil is found to be contaminated with heavy metals waste, that soil will be excavated, containerized, and sent for offsite disposal; the newly exposed soil will be sampled, analyzed and removed until the new soil shows no heavy metals significantly greater than background levels.

Items that cannot be properly decontaminated and contaminated disposable items will be enclosed and sent for offsite disposal.

Sampling Procedures

Random wipe sampling will be used to obtain information on the effectiveness of decontamination of objects, surfaces and equipment. A dry or wet cloth, glass fiber filter paper, or swab will be wiped over the surface of the potentially contaminated object or equipment and then analyzed for organics, heavy metals or other RCRA-hazardous constituents that are known or suspected to be present.

Soil samples will be taken around the waste management facility and/or at other areas related to the former waste handling operation if contamination is evident or suspected. Samples of soil from near the soil surface will be obtained using a spade, shovel or scoop to remove the soil cover to the required depth, and then using a stainless steel or other chemically compatible scoop to collect the sample. A systematic sampling scheme will be used to collect samples at predetermined regular intervals. Some compositing of soil samples prior to analysis may be done depending on preliminary findings and practical considerations. An undisturbed sample will be collected from the excavation by using a thin-wall tube sampler, which is forced into the soil, then extracted. Friction will usually hold the sample material in the tube during the extraction. The construction material will generally be steel; some samplers may utilize plastic liners and interchangeable cutting tips. Soil sampling could also be completed by hand augering a borehole, removing the auger, and lowering a tube sampler into the hole, then forcing it into the soil at the completion depth.

In addition to samples of potential contamination, blank samples (deionized/distilled water, rinsed collection devices, etc.) will be taken, handled in the same manner as the contamination samples, and analyzed to identify possible sources of contamination during collection, preservation, handling or transport.

Containerized or bulk waste in inventory at closure of the waste management facility, whose composition and characteristics are not sufficiently known to allow offsite disposition, will be sampled and analyzed using the approach described in our Waste Analysis Plan.

Sample containers will be selected on the basis of compatibility with the waste, resistance to breakage, cost and volume. Analytical procedures for determining waste constituents will be those outlined in RCRA Part 261 and EPA Report SW-846, Third Edition.

. Personnel S-fety Equipment

Personnel protective equipment and safety requirements during decontamination will be appropriate to protect against known or potential hazards. Equipment will be selected based on the type, concentration, possibilities, and routes of personnel exposure from the substances present. If the types of materials and possibilities of contact are unknown or not clearly identifiable, a more subjective determination will be made of personnel protective equipment required. Using the best available information, the appropriate level of protection will be selected from the Interior Standard Operating Safety Procedure provided by U.S. EPA (April 1981):

Level A - When the highest available level of respiratory, skin and eye contact protection is needed.

Level B - When the highest level of respiratory protection is needed, but exposure to small unprotected areas of the body is unlikely or concentrations are known to be within acceptable exposure standards.

Level C - When the type(s) and concentration(s) of respirable material are known, the material has adequate warning properties, or the material is reasonably assumed to be not greater than the protection factors associated with air-purifying respirators; and exposure to the few unprotected body areas is unlikely to cause harm.

Level D - When the site is positively identified as having no toxic hazards, the basic work uniform should be worn.

For example, Level A protection could be indicated if:

1. The type(s) and concentration(s) of toxic substances are known and any of the following conditions exist:

   o Atmospheres that are immediately dangerous to life and health

   o Known atmospheres or potential situations that would affect the skin or eyes or be absorbed into the body

   o Oxygen-deficient atmospheres with the above conditions.

2. The type(s) and/or potential concentration(s) of toxic substances are unknown.

3. Total vapor readings indicate 500 ppm to 1,000 ppm on instruments such as the photoionizer or organic vapor analyzer.

For Level A, the following personal protection equipment would be used: 1) positive pressure SCBA totally encapsulating suit, 2) inner chemical-resistant gloves, 3) chemical-protective boots, 4) outer chemical-resistant gloves, 5) cotton underwear, 6) hard hat, 7) disposable protective suit, gloves and boots, 8) coveralls, and 9) 2-way radio communications. Other equipment is prescribed by U.S. EPA for Levels B, C and D.

Personnel involved in decontamination procedures will practice good personal hygiene. Existing directives will be followed pertaining to the fit of respiratory protection equipment, corrective lenses, contact lenses, eating and smoking areas, and toilet facilities. Such personnel themselves will be decontaminated before leaving the work site, depending on the seriousness of the contamination. Impermeable clothing will be flushed with water before being removed by the person wearing it. Boots will be scrubbed with decontaminant or soap and water. Clothes will be placed in marked containers for laundering. Persons will shower completely using soap and water before donning clean street or work clothes. Waste waters from laundering and other activities will be treated as contaminated until proven otherwise.

Closure Certification - When closure of this hazardous waste storage facility has been completed, a registered professional engineer will certify that this unit has been closed in accordance with the approved closure plan. The certification will be signed by Mound's owner or operator and by the engineer and submitted to EPA by registered mail. The registered professional engineer will be an employee of EG&G Mound Applied Technologies who is not associated with the waste management activity at the site but who is employed in our Loss Prevention and Environmental Control Activity. The LP&EC function performs technical reviews of all engineering service orders at Mound to ensure that relevant safety, health, and environmental issues are addressed. Documentation supporting the engineer's certification will be furnished to EPA upon request.

2. SCHEDULE FOR CLOSURE

The following schedule includes the basic activities that would be completed at closure. All closure activities will be completed within six months after start.

Month After Start	Activity
1	Identify any unknown wastes by waste sampling and analysis.
1-2	Remove stored waste and ship for offsite disposal per EPA-approved Closure Plan.
2-3	Temporarily relocate any remaining hazardous waste that require analysis or cannot be shipped offsite immediately to a limited access area until arrangements have been made for offsite transport and disposal of the wastes.

Month After Start	Activit
3-4	Decontaminate structure and equipment by removing all hazardous waste and residue; collect and containerize cleaning fluids and residues; conduct sampling and analysis to show that contamination no longer exists.
4-5	Remove siting, grating, electrical service, roof, concrete pad, and fence.
5-6	Dispose of all equipment, structures, and analyzed wastes/residues intended for discard.
6	Complete any remaining activities.
6	Submit certification to EPA that facility has been closed per specifications in approved Closure Plan.

3. COST ESTIMATE FOR DEMOLITION OF BUILDING 72

Using the basic procedure outlined in this plan, the cost associated with such work is estimated to be $211,300, as shown in the following table. This cost may be less if contamination is found to be minimal or if decontaminated materials can be re-used instead of disposed of.

A.	Removal of roof structural steel, sheet metal siding, floor grating and fence		
	1. Material - 30 steel boxes, 2' x 4' x 7'; EPA-approved		$32,300
	2. Labor		
	a. Welders	3 man-weeks	2,470
	b. Sheetmetal	3 man-weeks	2,420
	c. Laborers	6 man-weeks	4,200
	d. Forklift	2 man-weeks	1,720
	e. Driver	2 man-weeks	1,290
B.	Removal of electrical services		
	1. Material - 1 steel box, 4' x 4' x 7'		2,150
	2. Labor Electricians - 1.0 man-week		860

C. Removal of ncrete pads from area 60' x 40' with soil to depth of 6 inches to 1 foot (2400 ft^3).

1. Material

48 steel boxes, 2' x 4' x 7'; EPA-approved	51,600

2. Labor

a.	Masons	4 man-weeks	3,230
b.	Backhoe Operator	2 man-weeks	1,610
c.	Laborers	8 man-weeks	5,480
d.	Welders	1 man-week	860
e.	Forklift Operator	1 man-week	860
f.	Driver	1 man-week	645
g.	Supervision	1 man-week	1,080

D. Restoration

Seed and Sod	2,150

E. Other

Sampling and Analytical Support	$10,000

F. Disposal ost (including transportation)

78 bo: s @$500	= $39,000	
25 dru. s of waste @$200	= 5,000	
Total disposal	$44,000	$44,000

Subtotal	**$169,000**
G. Subtotal Contingency (25%)	42,300
Total Cost	**$211,300**

Adjustment for Inflation - 1-27-87

Inflation factor: 1.031 (per J. Amos, MRC Engineering)

$211,300 x 1.031 = $217,850 (adjusted closure cost)

Adjustment for Inflation - 10-12-87

Inflation factor: 1.036 (per J. Amos, MRC Engineering)

$217,850 x 1.036 = $225,690 (adjusted closure cost)

(Revised 10/12/87)

Adjustment for Inflation - 1-6-89

Inflation factor: 1.043 (per J. Amos, EG&G Engineering)

$225,690 x 1.043 = $235,395 (adjusted closure cost)

(Revised 1-6-89)

CLOSURE PLAN FOR THE GLASS MELTER/PYRO CONVERTER
(WD-BUILDING)

1. DESCRIPTION OF CLOSURE

The operating life of this piece of equipment is estimated to be 10 years. The determining factor is the operating life time of the furnace electrodes. When the cost of replacing the electrodes is higher than the replacement cost of the furnace, the present furnace will be removed according to the plan described herein. At this writing, it is estimated that the furnace will no longer be operational after January, 1995.

2. MAXIMUM INVENTORY

The maximum inventory of hazardous chemical waste in the staging area for this furnace at any given time, is estimated to be less than 100 55 gal. drums (less than 45,000 lbs. of waste).

3. DESCRIPTION OF STEPS DURING CLOSURE

To close the glass melter furnace in a safe manner, samples will be taken from the glass pool in the furnace and analyzed for the content of any hazardous materials. Because this glass and all internal parts of the furnace will be at or will have been at a very high temperature (2000^{o}F) for extended times, it is expected that there will not be any residual hazardous organic or other hazardous material in the glass or the entire furnace chamber. Based on this analysis, the contaminated glass will either be removed from the furnace and packaged for disposal according to the then current guidelines and regulations, or left in the furnace and the whole furnace packaged for disposal.

It must be noted that this furnace is currently contaminated with radioactive materials, and thus, will have to be packaged for disposal at a suitable radwaste disposal site.

All auxiliary equipment and duct work will be checked for contamination, both hazardous chemical and radioactive. Depending on the results of these checks, the material will be decontaminated with appropriate chemicals and procedures and packaged for disposal according to currently applicable procedures and regulations.

The decontamination and decommissioning (D&D) of the radioactively contaminated waste will be done according to the Coordinated ANSPD (NEW) and OMA Decontamination and Decommissioning Program Plan, MLM-MU-84-64-0015.

If decontamination to remove hazardous chemicals is needed, we will complete t steps listed below and scribed in subsequent paragraphs.

3.1 Identify which items are contaminated and determine the nature and extent of contamination.

3.2 Select appropriate cleaning procedures including equipment and media.

3.3 Decontaminate items; collect and containerize cleaning fluids and residues for offsite disposal; conduct sampling and analysis to show that contamination no longer exists.

3.4 Send for offsite disposal those items that cannot be properly decontaminated.

o Identification of Waste to be Removed

We will identify the items to be decontaminated from our knowledge of operations involving hazardous wastes. We will visually inspect the identified items to determine the nature and extent of contamination. Under natural light, discolorations, stains, corrosive effects, and visible dirt may indicate the presence of contaminants. In addition, samples of contaminating waste will be taken and analyzed to identify or confirm waste composition or characteristics.

o Cleaning Media, Equipment and Procedures

We will refer to the CRC Handbook of Chemistry and Physics for information on solvents for specific waste compositions or components in order to select appropriate cleaning media for removing soluble wastes from items. Wastes soluble in water will be removed from items by flushing with water, then washing the items with soap and water. Organic solvents will be used as needed to dissolve and remove wastes from items; such items will then be washed with soap and water to remove any organic residues. Special cleaning liquids will be used if deemed necessary on the basis of unusual solubility characteristics of the waste involved.

The following cleaning procedures are representative of those that will be used for decontamination of the incinerator and associated equipment if necessary at closure: 1) washing with soap and water, 2) solvent flushing, 3) hydraulic scouring and blasting, 4) steam blasting, and 5) manual or mechanical removal of waste. After decontamination, we will sample all equipment, structures and surfaces and analyze such samples for evidence of residual wastes. If no residual hazardous waste is found, the item will be considered to have been adequately decontaminated. If organic waste is evident, additional cleaning will be completed until waste constituents in a

representative sample are below detection levels. If a heavy metals waste i. evident, additional clean g will be completed until such constituents in a representative sample are not significantly greater than background levels.

Cleaning will be completed using various types of equipment including 1) drums and other large containers for collecting waste fluids and residues, 2) any contaminated vessel, piping, etc., itself, 3) holes, portable pumps and vacuum equipment, and 4) hand tools, shovels and earth-moving equipment for dirt removal. For example, small items (such as contaminated pumps) can be placed in a drum or large container for decontamination. If any installed equipment (such as piping and vessels) must be decontaminated in place, containers will be placed at the equipment outlet to collect cleaning fluids. If a large surface (such as the drum holding area) is to be cleaned, small dam-like structures or plastic overlays will be placed on the surfaces to control the flow of cleaning fluids, which will be removed from the surface by vacuum or mopping and placed into containers for disposal. All empty containers previously used for hazardous waste storage will be decontaminated for reuse or shipped offsite for disposal. Waste residues from the decontamination procedure also will be sent offsite for disposal.

Items that cannot be properly decontaminated and contaminated disposal items will be enclosed and sent for offsite disposal probably by landfilling.

o Sampling Procedure

Random sampling will be used to obtain information on the effectiveness of decontamination of objects, surfaces and equipment. Samples will be analyzed for organics, heavy metals or other RCRA-hazardous constituents that are known or suspected to be present.

The glass bed in the incinerator will be sampled when the glass is still molten, prior to the final shutdown of the unit. Molten glass samples can be taken by use of the drain below the bed or by dipping a container into the bed. Alternatively, the solidified glass bed can be sampled by coring or chipping. The refractory lining in the furnace will be sampled by coring or by chipping away some of the material. The ductwork between the incinerator and the scrubber, and the ductwork in the offgas system downstream from the scrubber will be sampled by scraping deposits using a putty knife or metal scraper. The solution from the scrubber unit will be sampled by dipping or draining. A sample of material collected on the filter in the recycle loop to the scrubber will be obtained by scraping.

In addition to samples of potential contamination, blank samples (deion ed/distilled water, rinse collection devices, etc.) will be taken, handled in the same manner as the contamination samples, and analyzed to identify possible sources of contamination during collection, preservation, handling or transport.

Containerized or bulk waste in inventory at closure of the waste management facility, whose composition and characteristics are not sufficiently known to allow offsite disposition, will be sampled and analyzed using the approach described in our Waste Analysis Plan.

Sample containers will be selected on the basis of compatibility with the waste, resistance to breakage, cost and volume. Analytical procedures for determining waste constituents will be those outlined in RCRA Part 261 and EPA Report SW-846, Third Edition.

Personnel Safety Equipment

Personnel protective equipment and safety requirements during decontamination will be appropriate to protect against known or potential hazards. Equipment will be selected based on the type, concentration, possibilities, and routes of personnel exposure from the substances present. If the types of materials and possibilities of contact are unknown or not clearly identifiable, a more subjective determination will be made of personnel protective equipment required. Using the best available information, the appropriate level of protection will be selected from the Interior Standard Operating Safety Procedure provided by U.S. EPA (April 1981):

Level A - When the highest available level of respiratory, skin and eye contact protection is needed.

Level B - When the highest level of respiratory protection is needed, but exposure to small unprotected areas of the body is unlikely or concentrations are known to be within acceptable exposure standards.

Level C - When the type(s) and concentration(s) of respirable material are known, the material has adequate warning properties, or the material is reasonably assumed to be not greater than the protection factors associated with air-purifying respirators; and exposure to the few unprotected body areas is unlikely to cause harm.

Level D - When the site is positively identified as having no toxic hazards, the basic work uniform should be worn.

For example, Level A protection could be indicated if:

1. The type(s) and concentration(s) of toxic substances are known and any of the following conditions exist:

   - o Atmospheres that are immediately dangerous to life and health
   - o Known atmospheres or potential situations that would affect the skin or eyes or be absorbed into the body
   - o Oxygen-deficient atmospheres with the above conditions.

2. The type(s) and/or potential concentration(s) of toxic substances are unknown.

3. Total vapor readings indicate 500 ppm to 1,000 ppm on instruments such as the photoionizer or organic vapor analyzer.

For Level A, the following personal protection equipment would be used: 1) positive pressure SCBA totally encapsulating suit, 2) inner chemical-resistant gloves, 3) chemical-protective boots, 4) outer chemical-resistant gloves, 5) cotton underwear, 6) hard hat, 7) disposable protective suit, gloves and boots, 8) coveralls, and 9) 2-way radio communications. Other equipment is prescribed by U.S. EPA for Levels B, C and D.

Personnel involved in decontamination procedures will practice good personal hygiene. Directives will be provided pertaining to the fit of respiratory protection equipment, corrective lenses, contact lenses, eating and smoking areas, and toilet facilities.

Such personnel themselves will be decontaminated before leaving the work site, depending on the seriousness of the contamination. Impermeable clothing will be flushed with water before being removed by the person wearing it. Boots will be scrubbed with decontaminant or soap and water. Clothes will be placed in marked containers for laundering. Persons will shower completely using soap and water before donning clean street or work clothes. Waste waters from laundering and other activities will be treated as contaminated until proven otherwise.

4. SCHEDULE FOR CLOSURE

The following schedule includes the basic activities that would be completed at closure.

Month After Start	Activity
1	Identify any unknown wastes by waste sampling and analysis.
2-6	Complete any onsite waste treatment, and remove waste from staging area to approved storage site or package appropriately for shipment and offsite disposal per EPA-approved closure plan.
4-8	Remove hazardous waste and residues from any discharge control equipment and any discharge confinement structures.
6-12	Decontaminate equipment by removing all hazardous waste and residue; collect and containerize cleaning fluids and residues; conduct sampling and analysis to show that contamination no longer exists.
8-15	Dispose of all equipment, structures, and wastes/residues intended for discard.
12-20	Package main furnace for disposal.
12-24	Ship main furnace for disposal.
14-26	Complete any remaining activities.
18-26	Submit certification to EPA that facility has been closed per specifications in approved closure plan.

5. CLOSURE CERTIFICATION

When closure of the glass melter has been completed, a registered professional engineer will certify that the unit has been closed in accordance with the approved closure plan. The certification will be signed by Mound's owner or operator and by the engineer and submitted to EPA by registered mail. The registered professional engineer will be an employee of EG&G Mound Applied Technologies who is not associated with the waste management activity at the site but who is employed in our Loss Prevention and Environmental Control Activity. The LP&EC function performs technical reviews of all engineering service orders at Mound to ensure that relevant safety, health, and environmental issues are addressed. Documentation supporting the engineer's certification will be furnished to EPA upon request.

CLOSURE COST ESTIMATE

GLASS MELTER/PYRO CONVERTER

Activity		Cost
1. Identify any unknown waste.		$ 1,000
2. Complete any onsite waste treatment, and remove waste from staging area to approved storage site or package appropriately for shipment and offsite disposal per EPA-approved closure plan.	(2 weeks, 2 men)	$ 2,500
3. Remove hazardous waste and residues from any discharge control equipment and any discharge confinement structures.	(1 week, 2 men)	$ 1,500
4. Decontaminate equipment by removing all hazardous waste and residues; collect and containerize cleaning fluid and residues; conduct sampling/analysis to confirm absence of contamination.		
Labor (2 weeks, 2 men)		$ 2,500
Container (20 drums @$50)		$ 1,000
Materials		$ 1,000
(Sampling/analysis)		$(5,000)*
5. Dismantle/remove equipment		
Labor (3 weeks, 4 men)		$ 7,500
Equipment rental		$ 6,000
6. Dispose of all equipment, structures, and waste/residues intended for discard.	(1 truck @$1000)	$ 1,000
7. Package main furnace for disposal.	(1 week, 2 men)	$ 1,500
8. Ship main furnace for disposal.	(1 truck @$1000)	$ 1,000
9. Complete any remaining activities and certify.		$ 2,000
10. Contingency		5,000
	Total	$33,500

*Not included in cost estimated for 1-21-85.

1-21-85

Adjustment for Inflation - 1-27-87

Inflation factor for 1985-1986 = 1.04

$33,500 x 1.04 = $34,800 (adjusted closure cost for 1986)

Inflation factor for 1986-1987 = 1.031

$34,800 x 1.031 = $35,900 (adjusted closure cost as of 1-27-87)

Adjustment for Inflation - 10-12-87

Inflation factor: 1.036

$35,900 x 1.036 = $37,190

Additional sampling/analysis cost = 5,000

$42,190 (adjusted closure cost)

Adjustment for Inflation - 1-6-89

Inflation factor: 1.043 (per J. Amos, EG&G Engineering)

$42,190 x 1.043 = $44,004 (adjusted closure cost)

CLOSURE PLAN FOR THE BURN AREA

1. BASIC APPROACH

We estimate the burn area will be closed in 1999. The burn area will be closed in a manner that minimizes the need for further maintenance and that controls, minimizes, or eliminates to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste or constituents or decomposition products to the atmosphere, surface water, and ground water.

Explosive wastes processed in the burn area consist of bulk explosive powders, assemblies containing explosives, and paper, plastic and cloth contaminated with explosives. The composition of virtually all explosive waste generated at the burn area is known from process conditions; hence, hazardous waste characterization will be accomplished mostly by declaration instead of chemical analysis. If necessary, sampling and analyses will be conducted to identify unknown wastes.

Upon receipt of approval of our Closure Plan for the burn area, the closure schedule will be initiated. The closure activities described in this plan will be completed within the schedule shown in Section 4.

2. ESTIMATED MAXIMUM EXPLOSIVE WASTE INVENTORY IN STORAGE

Based on current and project explosive wastes generated at this site, we estimate a maximum inventory of 500 pounds of explosive wastes in storage at any given time during the life of the burn area.

3. DESCRIPTION OF CLOSURE

To close the burn area, we will remove all explosive waste and residues from equipment and structures and complete to the extent necessary the steps listed below and described in subsequent paragraphs:

- Identify which items are contaminated and determine the nature and extent of contamination.
- Select appropriate cleaning procedures including equipment and media.
- Decontaminate items, and collect and containerize cleaning fluids and residues for offsite disposal.
- Use thermal flashing of equipment as the major method of equipment contamination.

- o Conduct sampling as necessary to show that contamination no longer exists.
- o Send for offsite disposal those items that cannot be properly decontaminated.

3.1 Identification of Waste to be Removed

We will identify the items to be decontaminated from our knowledge of operations involving hazardous explosive wastes. We will visually inspect the identified items to determine the nature and extent of contamination. In addition, samples of contaminating waste may be taken and analyzed to identify or confirm waste composition or characteristics.

3.2 Cleaning Media, Equipment and Procedures

All decontamination activities will be guided by DOE Explosives Safety Manual DOE/EV/06194-3.

General

Water or a water-steam mixture will be used to clean up waste explosives or remove explosives contamination from equipment. Solvents that have been tested for and are compatible with explosives will be used if necessary and controls for their use specified in operating procedures. Clean cloth rags, paper wipes, and approved non-metallic brushes or scrapers will be used to clean or remove explosives material from equipment, work surfaces, and floors.

Cleaning Contaminated Equipment

Items to be cleaned will be positioned so that water and residue will have a short, open route to the gutters.

If a water-steam mixture is used as a cleaning agent, the water will be turned on before the steam and turned off after the steam. Live steam alone will not be used as a cleaning agent.

Output water pressure from a high-velocity water jet will not exceed 3.5 MPa (500 psi). For certain types of more sensitive explosives, a lower pressure specification may be necessary. The object to be cleaned will be soaked in a suitable solvent to soften the explosives material before applying the water jet.

Cleaning Screw Threads

Threads will be cleaned by judicious use of approved nonmetal "picks," solvent, or hot water.

Final Decontamination and Disposal of Equipment

If the item to be decontaminated has only smooth, flat surfaces (i.e., no cracks or other tight places where explosive residue may be inaccessible), solvents will be employed to effect total decontamination.

If the item to be decontaminated has tight places where explosives may remain lodged following normal cleaning procedures, the item will be subjected to final decontamination techniques. To facilitate cleanup, some items may have to be partially disassembled during the decontamination operation.

Final decontamination by thermal techniques will be done by subjecting the item to sustained heating at a temperature at least 60°C higher than required for decomposition of the most thermally stable explosive substance present. The item will be kept at that temperature for a sufficient period of time to ensure that all parts have reached the temperature and all explosives material is decomposed. This operation will be conducted remotely or with operator protection.

Final decontamination may also be accomplished by immersing the item in a chemical cleaning agent. The period of immersion will be of sufficient duration to ensure that all explosive material is chemically decomposed. The chemical cleaning agent will be one which, when reacted with any substance involved, does not release a flammable vapor.

Before subjecting the item to final decontamination by thermal or chemical techniques, as much explosive as possible will be removed by the approved mechanical means.

Inspection

After decontamination procedures are complete and before transfer to a nonexplosive area, the item will be inspected. If the inspector determines the item is adequately decontaminated, it will be documented and the item shall be labeled to indicate its decontaminated state. Inspection will be accomplished by representatives of at least two departments, such as the operating department and the safety department.

3.3 Sampling Procedure

Random wipe sampling will be used as necessary to obtain information on the effectiveness of decontamination of objects, surfaces and equipment A dry or wet cloth, glass fiber filter paper, or swab will be wiped over the surface of the potentially contaminated object or equipment Samples will be placed in a controlled barricaded area, ignited, and observed for evidence

of detonation or deflagration (rapid surface burning). If detonation or deflagration occur, the equipment/object will be further decontaminated and sampling repeated until no explosion or burning is observed in the wipe sample.

If necessary, wipe samples also may be analyzed chemically for evidence of residual wastes such as organics, heavy metals or other RCRA-hazardous constituents that are known or suspected to be present. If no residual hazardous explosive is found, the equipment/item will be considered to have been adequately decontaminated. If organic waste is evident, additional cleaning will be completed until waste constituents in a representative sample are below detection levels. If a waste containing heavy metals is evident, additional cleaning will be completed until such constituents in a representative sample are not significantly greater than background levels.

Soil samples will be taken around the burn area if contamination is evident or suspected in accordance with DOE guidance. Samples of soil from near the soil surface may be obtained using a spade, shovel or scoop to remove the soil cover to the required depth, and then using a stainless steel or other chemically compatible scoop to collect the sample. A systematic sampling scheme may be used to collect samples at predetermined regular intervals. Some compositing of soil samples prior to analysis may be done depending on preliminary findings and practical considerations. An undisturbed sample could be collected from this excavation by using a thin-wall tube sampler, which is forced into the soil, then extracted. Friction will usually hold the sample material in the tube during the extraction. The construction material will generally be steel; some samplers may utilize plastic liners and interchangeable cutting tips. Soil sampling could also be completed by hand augering a borehole, removing the auger, and lowering a tube sampler into the hole, then forcing it into the soil at the completion depth.

In addition to samples of potential contamination, blank samples (deionized/distilled water, rinsed collection devices, etc.) will be taken, handled in the same manner as the contamination samples, and analyzed to identify possible sources of contamination during collection, preservation, handling or transport.

Containerized or bulk waste in inventory at closure of the burn area, whose composition and characteristics are not sufficiently known to allow onsite burning or offsite disposition, will be sampled and analyzed using the approach described in our Waste Analysis Plan.

Sample containers will be selected on the basis of compatibility with the waste, resistance to breakage, cost and volume. Analytical procedures for determining waste constituents will be those outlined in RCRA Part 261 and EPA Report SW-846, Third Edition, as applicable.

3.4 Personnel Safety Equipment

Clothing

Each operation will be analyzed to determine when personnel working with explosives must wear approved coveralls or laboratory coats to prevent skin contact with explosives and to prevent contaminating personal apparel. Flame-retardant coveralls may be desired for certain explosives operations where the possibility of a flash fire exists. These coveralls will not have cuffs and will not have metallic fasteners Written procedures include protective clothing and equipment requirements.

Cotton (or other antistatic material) outer and undergarments, including socks, will be worn where generation of static electricity would create a hazard.

Footwear

Personnel working in a building or area where electrostatic-sensitive explosive powders or materials are handled will wear conductive, nonsparking footwear. Exception: Personnel working on electrical or electronic equipment will not wear conductive footwear unless protected by insulated mats, ground fault circuit interrupters (GFCI), etc. Personnel working in other areas where explosives contamination may be present will wear nonsparking footwear or bootie shoe coverings.

Respirators

Approved respirators will be worn in dusty atmospheres to prevent breathing of explosives dust.

Eye Protection

Suitable eye protection devices will be worn by all personnel when working or visiting in eye hazard areas, particularly when electroexplosive devices are handled. The type of explosive operation will be evaluated for eye hazard risks. Contact lenses will not be considered as an appropriate eye protection.

Gloves

Gloves will be worn during manual handling of unpackaged toxic explosives.

Cleaning and Disinfecting

Provision will be made for the laundering and disinfecting of protective garments and devices. Attention to cleaning and disinfecting is especially important for equipment worn about

the face. Beca e laundering affects the ame-retardant properties of fabric, flame-retardant coveralls will be tested to establish the maximum number of laundering cycles permitted.

Contaminated Clothing

If clothing becomes contaminated, as much contaminant as possible will be removed by wiping or dusting; compressed air will not be used for this purpose. If obvious contamination remains, clothing will be changed.

Personnel involved in decontamination procedures will practice good personal hygiene. Directives will be provided pertaining to the fit of respiratory protection equipment, corrective lenses, contact lenses, eating and smoking areas, and toilet facilities.

Such personnel themselves will be decontaminated before leaving the work site, depending on the seriousness of the contamination. Impermeable clothing will be flushed with water before being removed by the person wearing it. Boots will be scrubbed with decontaminant or soap and water. Clothes will be placed in marked containers for laundering. ersons will shower completely using soap and water before donn ng clean street or work clothes. Waste waters from launder ng and other activities will be treated as contaminated until proven otherwise.

4. SCHEDULE FOR CLOSURE

The following schedule includes the basic activities that will be completed at closure. All closure activities will be completed within six months after start.

Month After Start	Activity
1	Identify any unknown wastes by waste sampling and analysis.
1-2	Complete onsite destruction of explosive wastes.
2-3	Remove hazardous waste and residues from any discharge control equipment and any discharge confinement structures.
3-4	Decontaminate equipment by removing all hazardous waste and residue; use thermal decontamination as needed; collect and containerize cleaning fluids and residues; conduct sampling and analysis as needed to show that contamination no longer exists.
4-6	Dispose of all equipment, structures, and waste/residues intended for discard.
6	Complete any remaining activities.
6	Submit certification to EPA that facility has been closed per specifications in approved closure plan.

5. CLOSURE CERTIFICATION

When closure of the burn area has been completed, a registered professional engineer will certify that the area has been closed in accordance with the approved closure plan. The certification will be signed by Mound's owner or operator and by the engineer and submitted to EPA by registered mail. The registered professional engineer will be an employee of EG&G Mound Applied Technologies who is not associated with the waste management activity at the site but who is employed in our Loss Prevention and Environmental Control Activity. The LP&EC function performs technical reviews of all engineering service orders at Mound to ensure that relevant safety, health, and environmental issues are addressed. Documentation supporting the engineer's certification will be furnished to EPA upon request.

6. COST ESTIMATE FOR CLOSURE OF BURN AREA

Using the basic procedure outlined in this plan, the cost associated with such work is estimated to be $100,000, as shown in the following table. This cost may be less if contamination is found to be minimal or if decontaminated materials can be re-used instead of disposed of.

Identification of unknown waste	$ 1,000
Onsite destruction of residual waste	$ 2,000
Removal of waste from equipment/structures (1 week, 3 men)	$ 2,000
Decontamination of equipment	
Labor (4 weeks, 4 men)	$ 10,000
Containers (100 drums @$50)	$ 5,000
Materials	$ 3,000
(Sampling/analysis to confirm absence of decontamination)	$(5,000)*
Dismantling/removal of equipment	
Labor (8 weeks, 10 men)	$ 50,000
Equipment rental	$ 10,000
Disposal of equipment, waste, etc.	
Ten truckloads @$1000	$ 10,000
Remaining activities and certification	$ 2,000
Contingency	$ 5,000
Total	$100,000

*Not included in cost of $100,000

Adjustment for Inflation - 1-127-87

Inflation factor: 1.031

$100,000 x 1.031 = $103,100 (adjusted closure cost)

Adjustment for Inflation - 10-12-87

Inflation factor: 1.036

$103,100 x 1.036 = $106,810

Sampling/analysis cost = 5,000

$111,810 (adjusted closure cost)

Adjustment for Inflation - 1-6-89

Inflation factor: 1.043 (per J. Amos, EG&G Engineering)

$111,810 x 1.043 = $116,618 (adjusted closure cost)

4.2.2.6 Description of Auxiliary Fuel System (Par. 270.19(c)(2)(iv)

An overview of the electrical system for the glass melter is shown in Figure 4-11. A schematic diagram of the original power supply is provided in Figure 4-12. The upgraded power control unit is shown in Figure 4-13. The upgraded power supply unit is depicted in Figure 4-14. Figure 4-15 provides a schematic diagram of the modified electric current control.

Energy to maintain glass in the molten state and provide necessary heat for transfer to chamber walls and gases is supplied electrically by means of three electrode pairs (six electrodes) embedded horizontally in the glass pool. The electricity supplied to the furnace is 150 kVA, 3-phase, 460 V AC. Up to 150 kW of power is available. Control of the power supply is by a three-phase, phase angle firing SCR unit. Temperature control is achieved by regulating the level of the voltage to the furnace.

The glass melter is also equipped with a 400,000 Btu/hr propane-fired burner. This is used only at the cold start-up of the unit to bring the glass to its molten state, at which time it becomes electrically conductive. Once the glass is capable of conducting current, the propane burner is turned off; it is not used during waste processing.

4.2.2.7 Capacity of Prime Mover (Par. 270.19(c)(2)(v))

Two centrifugal fans installed in series following the HEPA filter induce combustion air to the chamber and provide the differential pressure requirements of the offgas scrubbing unit. The first fan has a capacity to deliver 42 inches W.G. static pressure and 200 scfm of air flow; it is powered by a 7.5-hp motor. The second fan has a capacity of 61 inches W.G. static pressure and 550 cfm of air flow; it is powered by a 15-hp motor.

4.2.2.8 Description of Waste Feed System and Waste Feed Cutoff System (Par. 270.19(c)(2)(vi)

4.2.2.8.1 Waste Feed System

Four small scale feed systems are presently available for experimental feeding of solids, liquids, and sludges. These systems all feed to a common furnace penetration of the chamber ceiling at the end of the furnace opposite that of the offgas outlet. Wastes drop by gravity directly to the surface of the glass, where most liquid evaporation and primary combustion takes place. The remaining volume of the

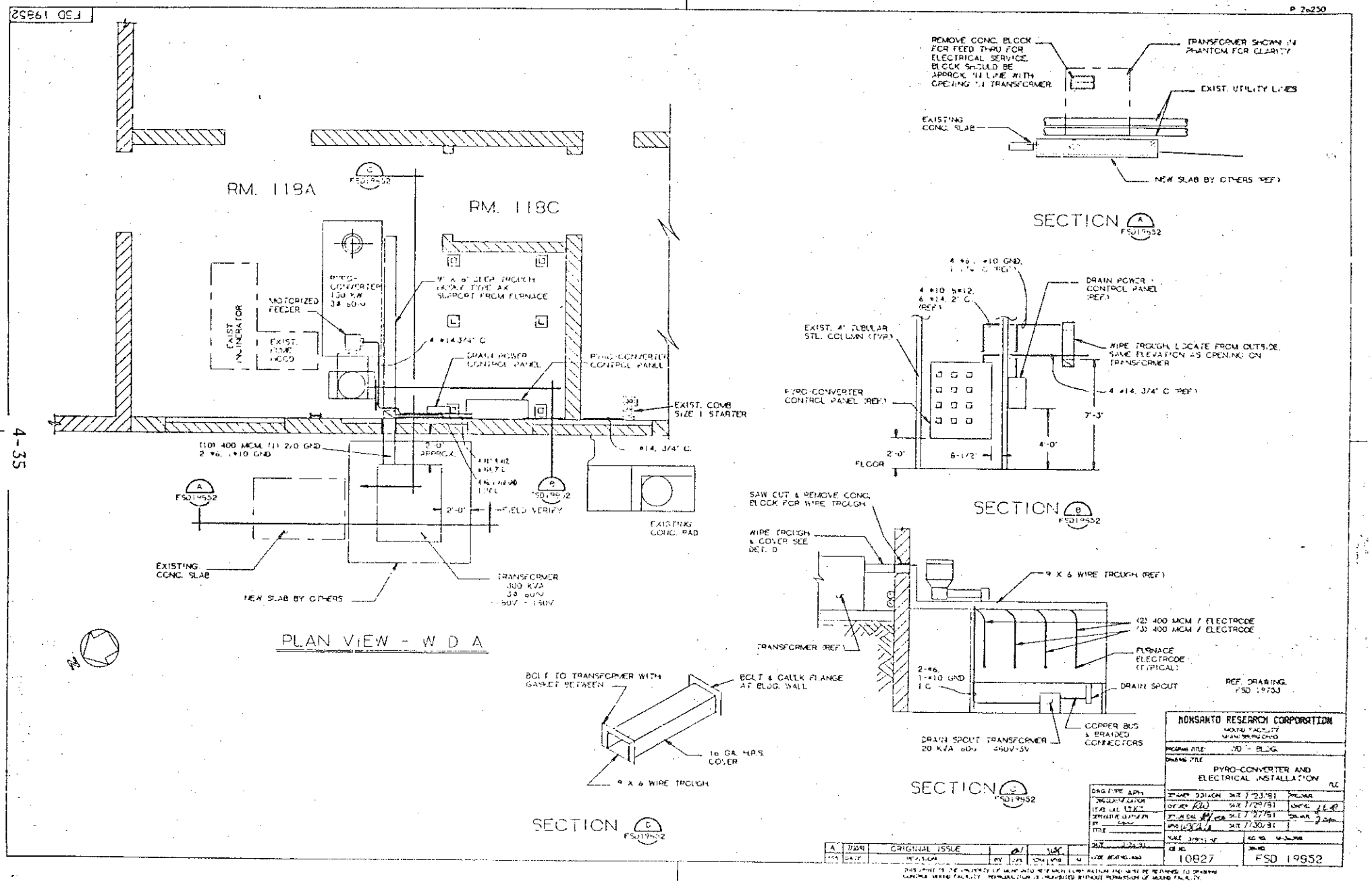

Figure 4-11. Overview of Electrical System

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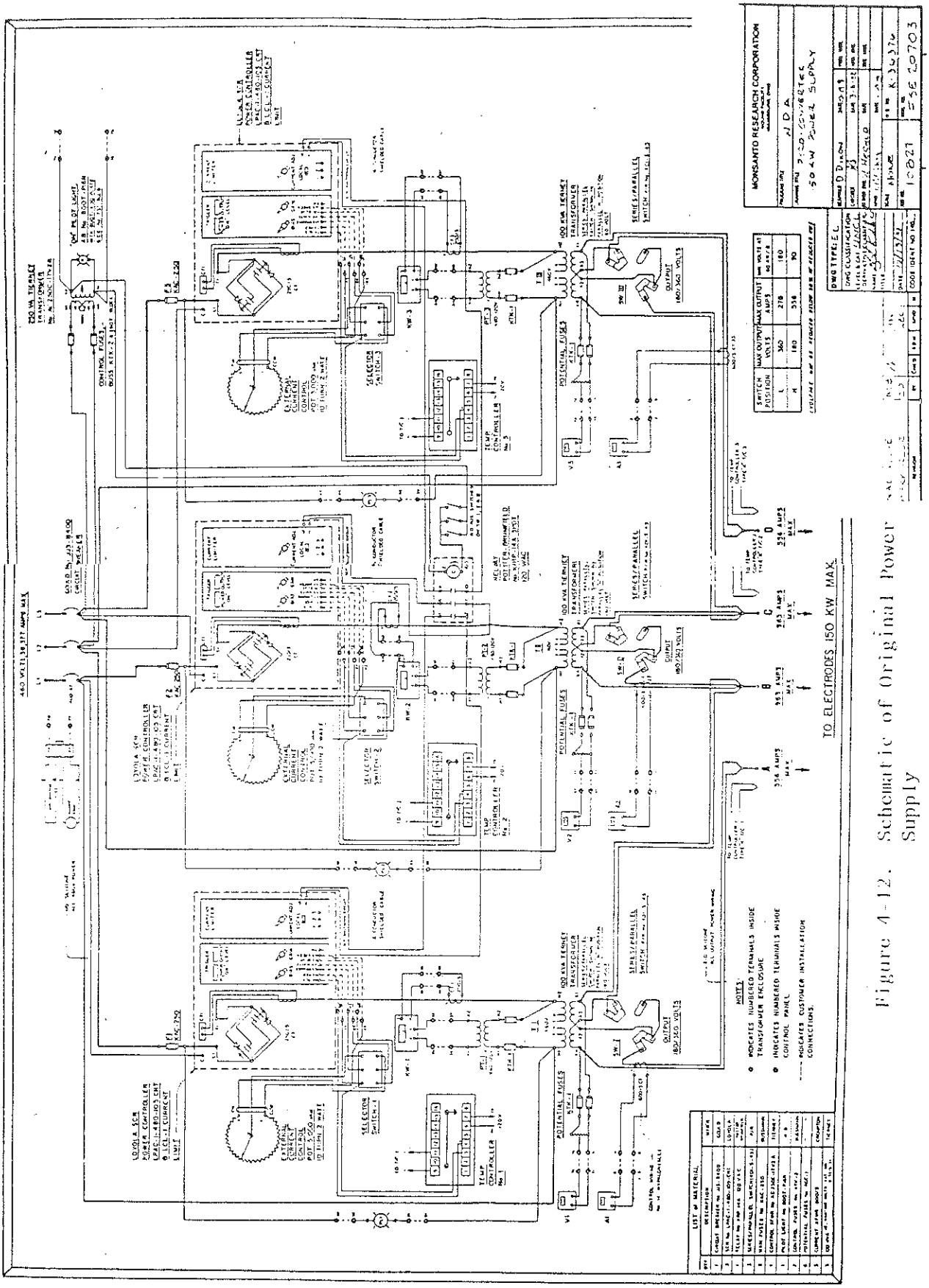

Figure 4-12. Schematic of Original Power Supply

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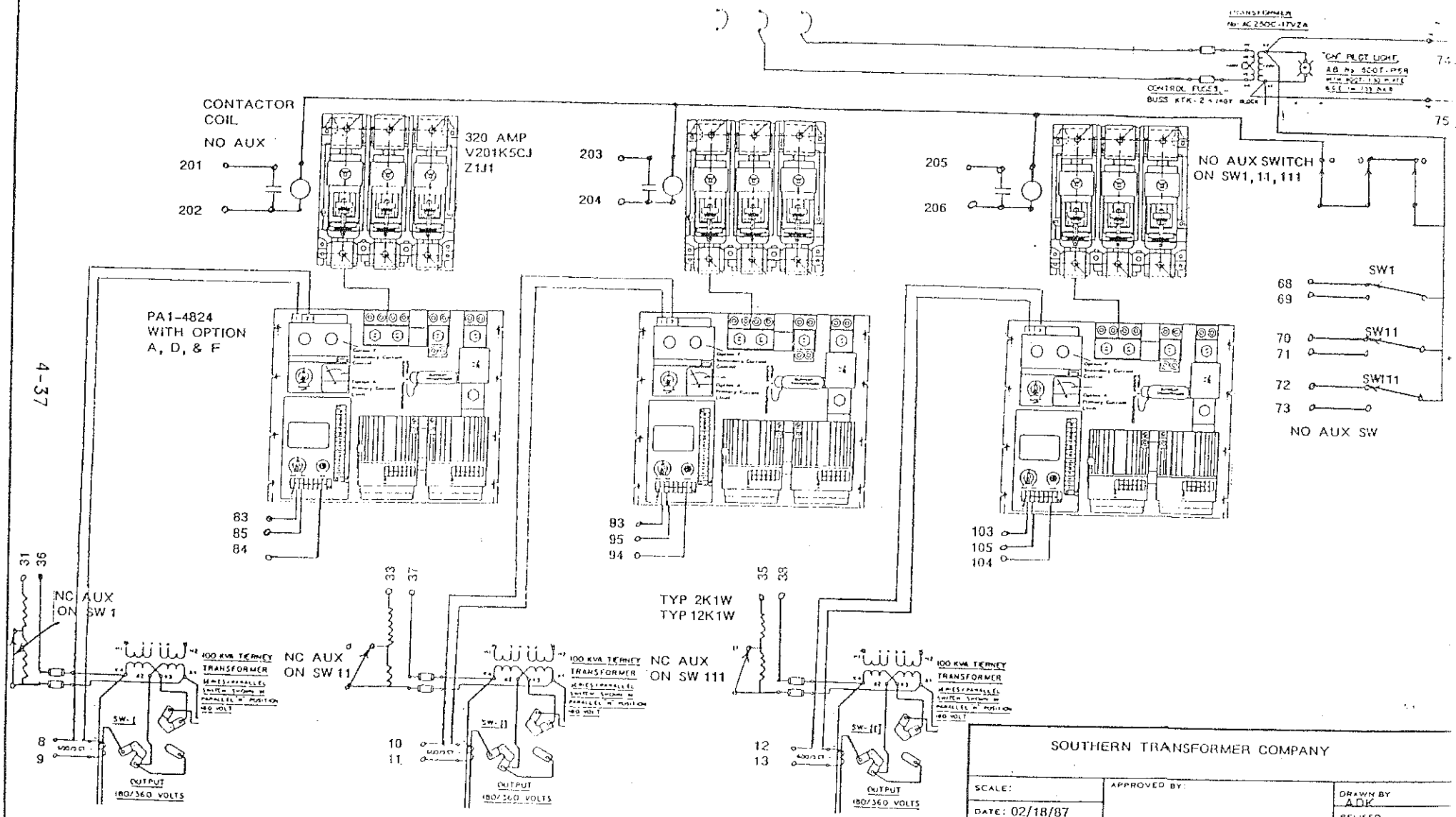


Figure 4-13. Upgraded Power Control Unit

SOUTHERN TRANSFORMER COMPANY

SCALE:	APPROVED BY:	DRAWN BY ADK
DATE: 02/18/87		REVISED

PYRO CONVERTER
NEW CONTROL WIRING POWER UNIT

DRAWING NUMBER 1102145

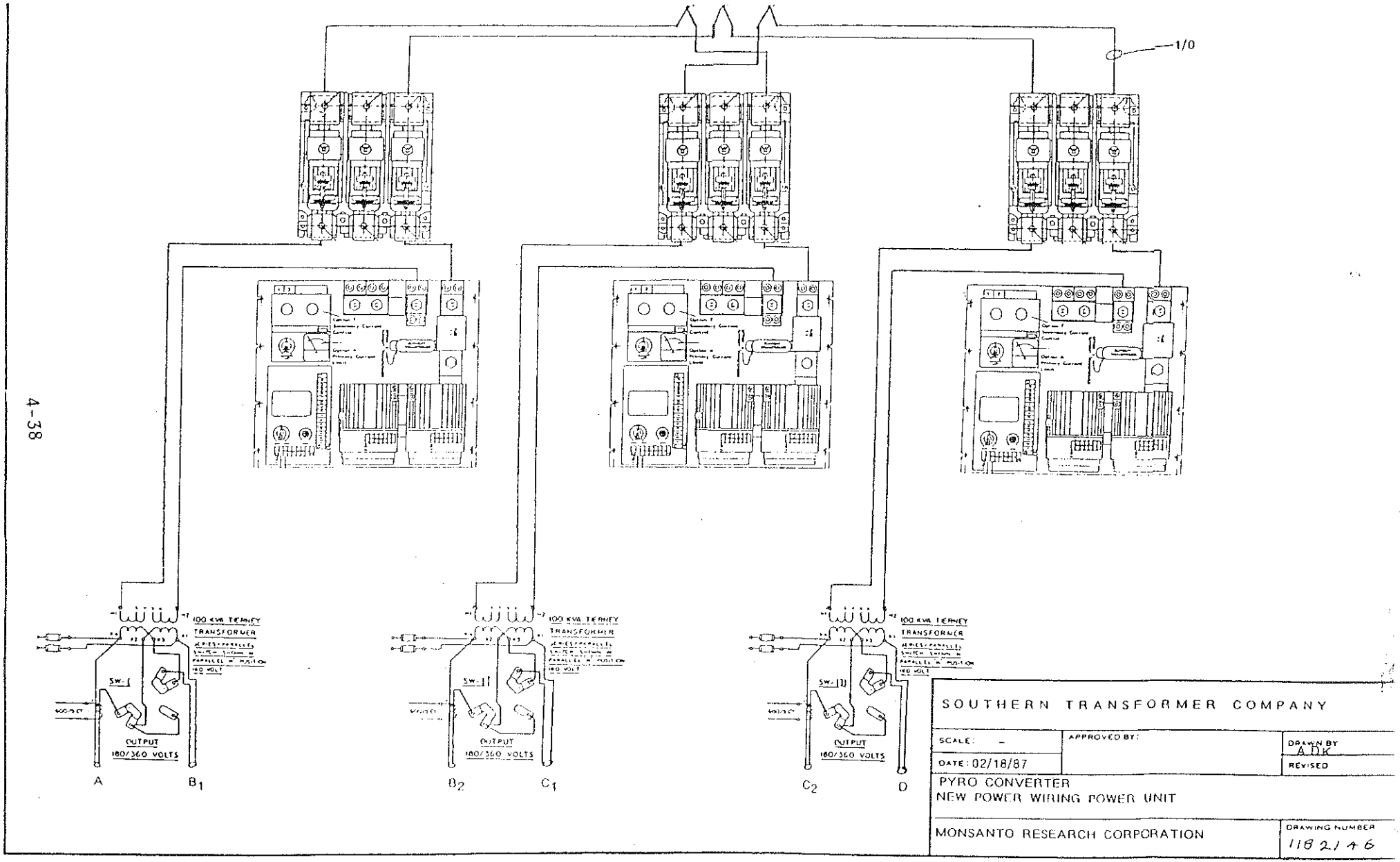


Figure 4-14. Upgraded Power Supply Unit

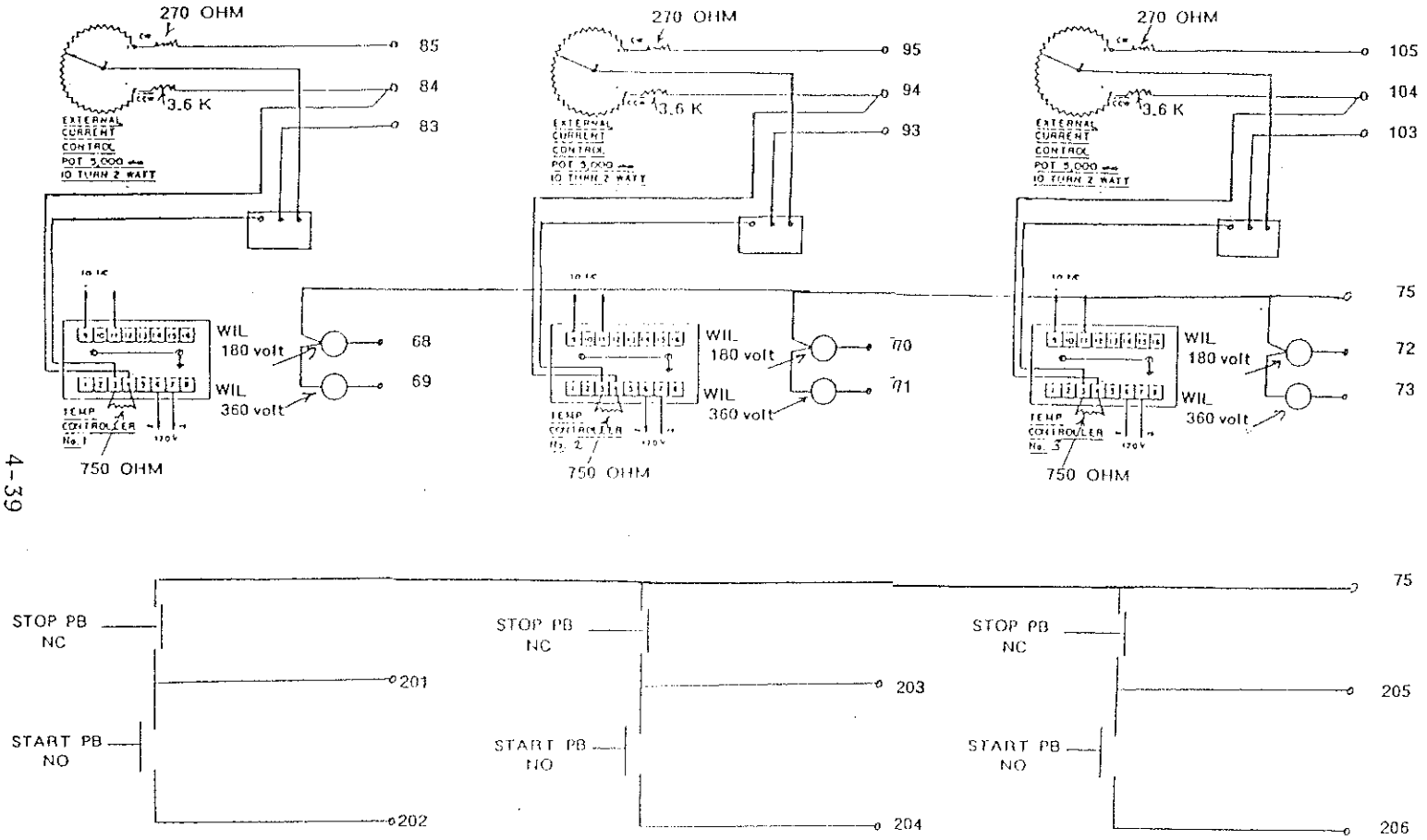


Figure 4-15. Modified Electric Current Control Schematic

SOUTHERN TRANSFORMER COMPANY		
SCALE	APPROVED BY	DRAWN BY ADK
DATE 2/20/87		REVISED
PYRO CONVERTER NEW CONTROL WIRING - CONTROL UNIT		

chamber is then available for secondary combustion reactions. Ash laying on the surface is assimilated into the glass matrix, and then mixed by convection currents throughout the bed.

Two screw feeders are used for solid materials. The first is a 6-inch water-cooled screw used generally for larger particle feeds, or inorganics where feed rate is not critical. The other screw feeder is a Vibra Screw Live Bin feeder with a 1-inch screw. The hoppers for both feeders have gasketed lids, and are enclosed in controlled air fume hoods, with ventilation being provided by a building exhaust system designed for radioactivity control (HEPA filtered before release to the stack).

The sludge feeding system consists of a 55-gallon hopper, a Moyno "open throat" sludge pump, and 1-inch piping to deliver feed to the furnace.

The liquid feed system consists of a 55-gallon feed tank, metering solvent pump, 100-micron filter, flow meter, needle valve, check valve, and shut-off valve. Stainless steel tubing is used for liquid transport. The liquid nozzle allows full stream entry to the furnace. Fuel atomization is not considered necessary, would complicate the feed system and make it more susceptible to plugging, and may, in fact, reduce effective residence time since atomization techniques project droplets into the gas stream.

4.2.2.8.2 Automatic Waste Feed Cutoff System

The glass furnace is equipped with a propane burner system which is used only upon cold start-up of the furnace to prepare a molten glass batch that will conduct electricity. This burner has a standard flame safety system consisting of a flame-rod-type flame detection, gas line pressure switch, control module, and automatic valving. Additional manual valves are closed as the electrical system comes up.

All critical process data, including system pressures, temperatures, and analyzer information, are fed to a Kaye Instrument Digistrip III Recorder/Data Logger for monitoring and recording purposes. Alarm set points (high, low, and rate of change) can be programmed independently for each input channel. Waste feed cutoff will be initiated automatically when selected measurements fall outside prescribed ranges. For liquid feed operations, Digistrip relays will interact with a Hauck flame safety system, tripping the system shut-off valve when selected results are outside specifications. For sludges and combustible solids feed systems, alarm signals will be used to shut off power to feed system motors.

The parameters that will be used for automatic waste cutoff are: flue gas carbon monoxide, chamber temperature, and scrubber outlet flue gas temperature. Shut-off will occur at carbon monoxide values greater than 700 parts per million, chamber temperatures less than 1500^{o}F or

greater than 2700°F, or scrubber outlet flue gas temperatures greater than 205°F. Thermocouples used for the above temperature measurements are B and J types, respectively; they will be calibrated by the Mound Standards laboratory, or by the manufacturer. Recalibration or replacement will be performed as specified by Department of Energy Quality Assurance guidelines.

The carbon monoxide continuous emission monitor is a Beckman Model 865, non-dispersive infrared instrument. Zero and standard gases will be used to periodically calibrate the instrument in accordance with EPA procedures for continuous emission monitoring. A conditioning system is used to prepare the flue-gas sample for the instrument. This system consists of a particle filter, a refrigerated condenser and liquid trap, additional filters, and a rotometer.

4.2.2.9 Stack Gas Monitoring and Pollution Control Equipment (Par. 270.19(c)(2)(vii)

Carbon monoxide is monitored continuously using a sample gas extraction system coupled to a Beckman Model 865 non-dispersive infrared (NDIR) analyzer as specified in EPA Method 10 (CFR 40, Chapter I, App. A). The Beckman instrument has range options of 0 to 1000 parts per million and 0 to 1000 parts per million. The analyzer's 0 to 1000 ppm range is equipped with a linearizer circuit board to provide linear concentration readouts to the meter and to a Digistrip III data logger. A gas conditioning assembly is used to prepare the flue gas sample for the NDIR cell (see Figure 4-16). A gas sample is drawn from the flue duct by way of a Lear Siegler probe assembly. This probe features an electrically heated filter chamber which is located adjacent to, but outside the mounting flange so that the filter can be easily maintained. Separate gas connections at the filter permit sample extraction, backflush, and calibration gas injection. The sample is next drawn through two heat exchanger coils in series which are immersed in solution maintained at just above freezing temperature. Moisture which condenses from the sample is caught in traps. Two additional filters remove remaining particle matter from the sample, and then a pump sends it though a rotometer and to the analyzer. Span gases of zero air, 400 ppm CO, and 1000 ppm CO are used to calibrate the analyzer. For EPA Method 10, the minimum detectable concentration of CO has been determined to be 20 ppm in a range of 1 to 1000 ppm. Collaborative tests have shown that this method can be executed with accuracies within +/-10.1 mg CO/m^3.

(see figure 4-17)

A Teledyne Model 9700 oxygen analyzer is used to continuously monitor O_2 in the offgas. The analyzer employs a micro-fuel cell (electro-chemical transducer) to provide an electrical signal that is directly proportional to, and specific to, oxygen concentration in the gas adjacent to its sensing surface. The instrument is rated to have an accuracy of -1% to +1% of scale, over a range selection of 0-5 to 0-25% O_2. A sample conditioning system cleans and cools the gas sample for the analyzer. Sample gas is drawn into the system through a two-way selector valve. Cooling water is introduced through a spray nozzle. The sample gas and cooling water mixture then enters the pump. The discharge of the pump goes through a mixer tube where the sample gas is thoroughly scrubbed. The mixer tube empties into a separator, with the water going to a drain and the sample gas (via a filter condensate trap) to the oxygen analyzer.

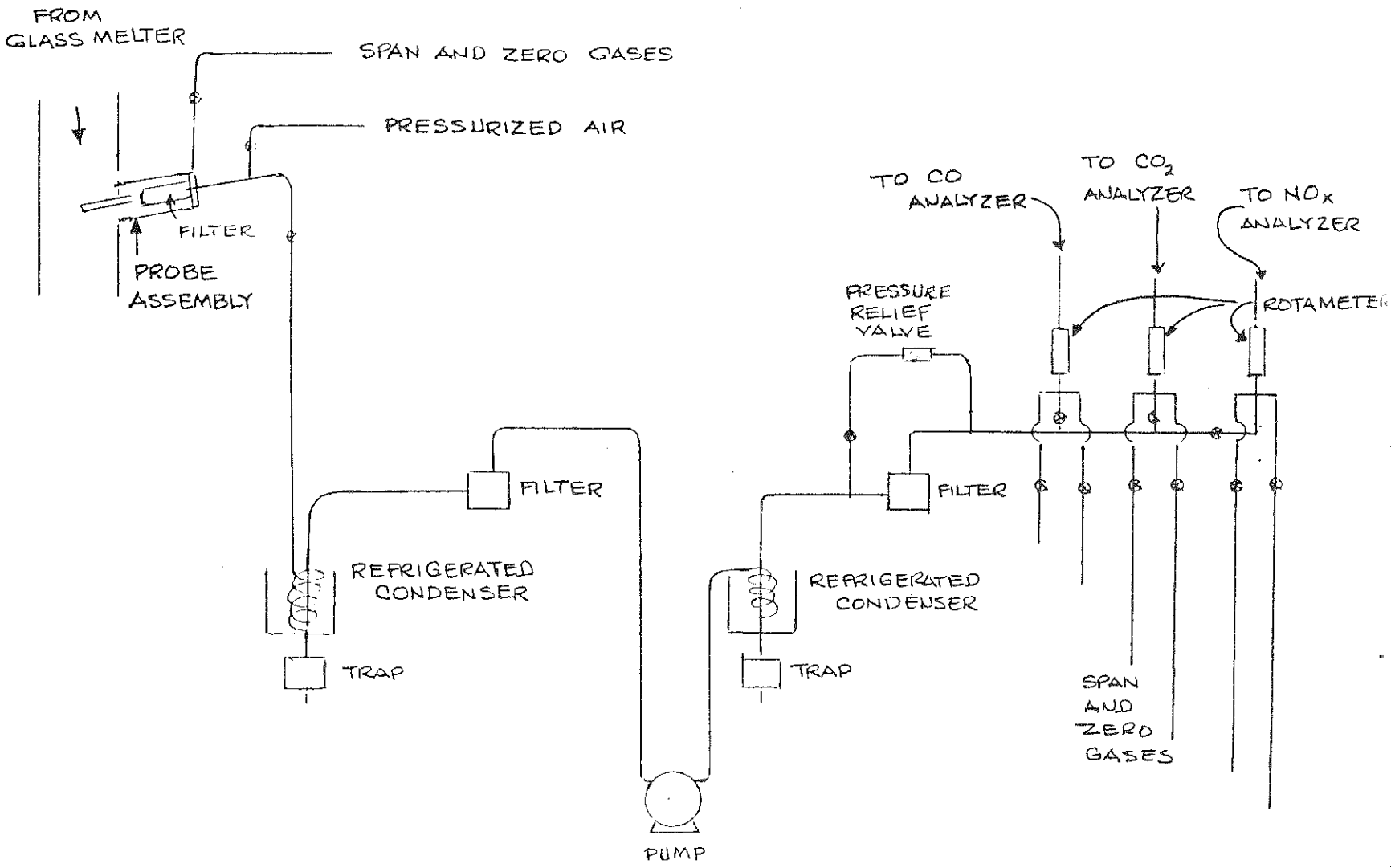


Figure 4-16. Sample extraction and preparation system

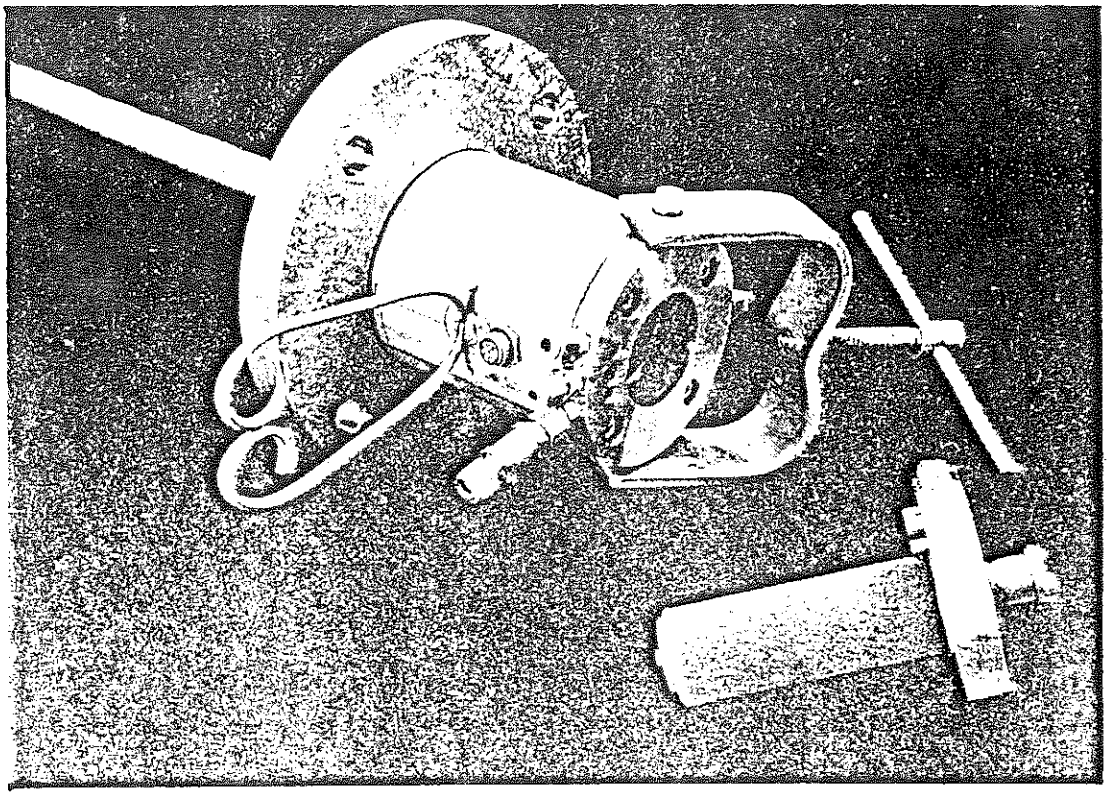


Figure 4-17. Extractive gaseous sample probe assembly

4.2.2.10 Nozzle and Burner Design (Par. 270.19(c)(2)(viii)

Since heat for combustion in the glass melter is electrically generated, auxiliary fuel nozzles and burner assemblies are not required. Waste, both in the solid and liquid form, is free fed directly to the furnace with no atomization required.

4.2.2.11 Construction Materials (Par. 270.19(c)(2)(ix))

The glass melter consists of a rectangular 310 stainless steel box lined with Criteria I alumina, zirconia, silicate fused-cast refractory on the floor and lower sides to contain the glass pool, and of high-density firebrick in the upper chamber where combustion takes place. An outer layer of standard firebrick and an air space separate the interior refractory from the outer skin. Electrodes embedded in the glass pool are fabricated of high purity iron.

The offgas duct between the furnace and the scrub tank and the scrub tank itself are constructed of 316L stainless steel. Scrub tank nozzles are fabricated of Inconel 625 and 316 stainless steel. The venturi scrubber and the section of duct immediately proceeding it are constructed of Hastelloy C-276. The remainder of the offgas ductwork is fabricated of 304L stainless steel. Exhaust fan impellers and casings are constructed of carbon steel.

The scrub liquor system is composed of a mixture of iron and stainless steel materials. The pump casing and vertical leaf filter housing are of cast iron. The filter leaves are constructed of 316 stainless steel, and are covered externally with polypropylene fabric. The heat exchanger and the recycle tank are fabricated of 316 stainless steel. Black iron pipe makes up most of the piping system. Pipe directly adjacent to the spray nozzles is 316 stainless steel. Stainless steel strainers separate the black iron and stainless steel pipe.

4.2.2.12 Location and Description of Temperature, Pressure, and Flow-Indicating and Control Devices (Par. 270.19(c)(2)(x))

The control instruments described in Table 4-5 are used to monitor process parameters. The locations of these sensors are shown in Figure 4-18.

Table 4-5 DESCRIPTION OF SYSTEM MONITORS

Measurement	ID	Instrument	Analysis Method	Range(s)	Recorded
Furnace Chamber Temperature - Zone 1	TC1	B Type Thermocouple		32-3092°F	X
Furnace Chamber Temperature - Zone 2	TC2	B Type Thermocouple		32-3092°F	X
Furnace Chamber Temperature - Zone 3	TC3	B Type Thermocouple		32-3092°F	X
Electrode A Temperature	TC20	K Type Thermocouple		(-)330-2300°F	
Electrode B Temperature	TC21	K Type Thermocouple		(-)330-2300°F	
Electrode D Temperature	TC22	K Type Thermocouple		(-)330-2300°F	
Furnace Cooling Water Temperature	TC19	J Type Thermocouple		32-1400°F	X
Furnace Chamber Pressure	PG1	Magnehelic Gauge		0-(-)15 inches water	
	PT1	Pressure Transducer		(-)10-10 inches water	X
Offgas Temperature - Before Scrubber	TC4	B Type Thermocouple		32-3092°F	X
Offgas Temperature - Before Scrubber	TC5	B Type Thermocouple		32-3092°F	X
Offgas Temperature - After Spray Tank	TC6	J Type Thermocouple		32-1400°F	X
Offgas Temperature - After Venturi	TC7	J Type Thermocouple		32-1400°F	X
Offgas Temperature - After Fans	TC8	J Type Thermocouple		32-1400°F	X
Offgas Temperature - System Exit	TC9	J Type Thermocouple		32-1400°F	X
Offgas Velocity - System Exit	PG4	Magnehelic Gauge		0-2 inches water	
	VI1	Annubar - Pressure Transducer		0-5 inches water	X
Offgas Mass Flow Rate - System Exit	VI2	Kurz Mass Flow Meter	Thermal Sensor	0-2500 feet/minute	X
Venturi Pressure Differential	PG3	Magnehelic Gauge		0-80 inches water	X
	PT3	Pressure Transducer		0-80 inches water	X
Spray Tank Pressure	PT2	Pressure Transducer		0-(-) 10 inches water	X
Flue Gas Oxygen	O_2	Teledyne 9700 Flue Gas Analyzer	Electrochemical Transducer	0-25%	X
Flue Gas Carbon Monoxide	CO	Beckman 865 Analyzer	Non-dispersive infrared	0-1000 ppm	X
Flue Gas Carbon Dioxide	CO_2	Beckman 864 Analyzer	Non-dispersive infrared	0-20%	X
Flue Gas Nitrogen Oxides	NO_x	Beckman 951A	Chemiluminescent	0-10 to 0-10,000 ppm	X
Flue Gas Combustibles	CB	Teledyne 9700 Flue Gas Analyzer	Catalytic Sensor	0-5%	X

Table 4-5 DESCRIPTION OF SYSTEM MONITORS (continued)

Measurement	ID	Instrument	Analysis Method	Range(s)	Recorded
Scrub Liquor Temperature - Supply	TC12	J Type Thermocouple		32-1400°F	X
Scrub Liquor Temperature - Spray Tank Drain	TC13	J Type Thermocouple		32-1400°F	X
Scrub Liquor Temperature - Demister Drain	TC14	J Type Thermocouple		32-1400°F	X
Scrub Liquor Temperature - Heat Exchanger Inlet	TC15	J Type Thermocouple		32-1400°F	X
- Heat Exchanger Outlet	TC16	J Type Thermocouple		32-1400°F	X
Furnace Coolant Temperature - Radiator Inlet	TC17	J Type Thermocouple		32-1400°F	X
- Radiator Outlet	TC18	J Type Thermocouple		32-1400°F	X
Scrub Liquor pH	pH	Leeds & Northrup		0-14	X

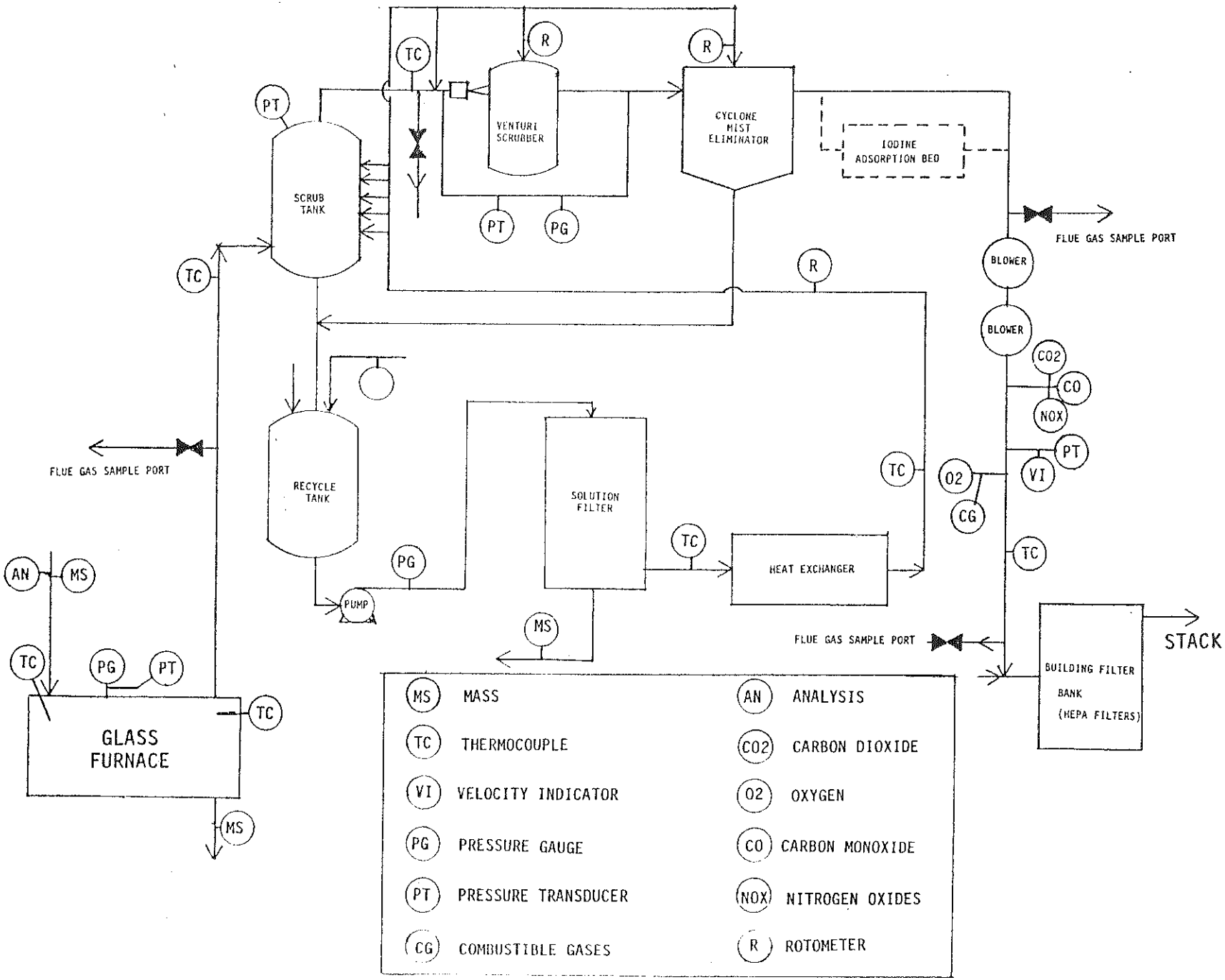


Figure 4-18. Process Flow Diagram for Glass Melter

An engineering flow diagram of the incinerator offgas system, showing the location of associated instrumentation, is presented in Figure 4-19.

Process diagram details for the glass melter and prescrubber blue duct are shown in Figure 4-20, for the prescrubber flue to the venture scrubber in Figure 4-21, and for the venture scrubber to the stack in Figure 4-22.

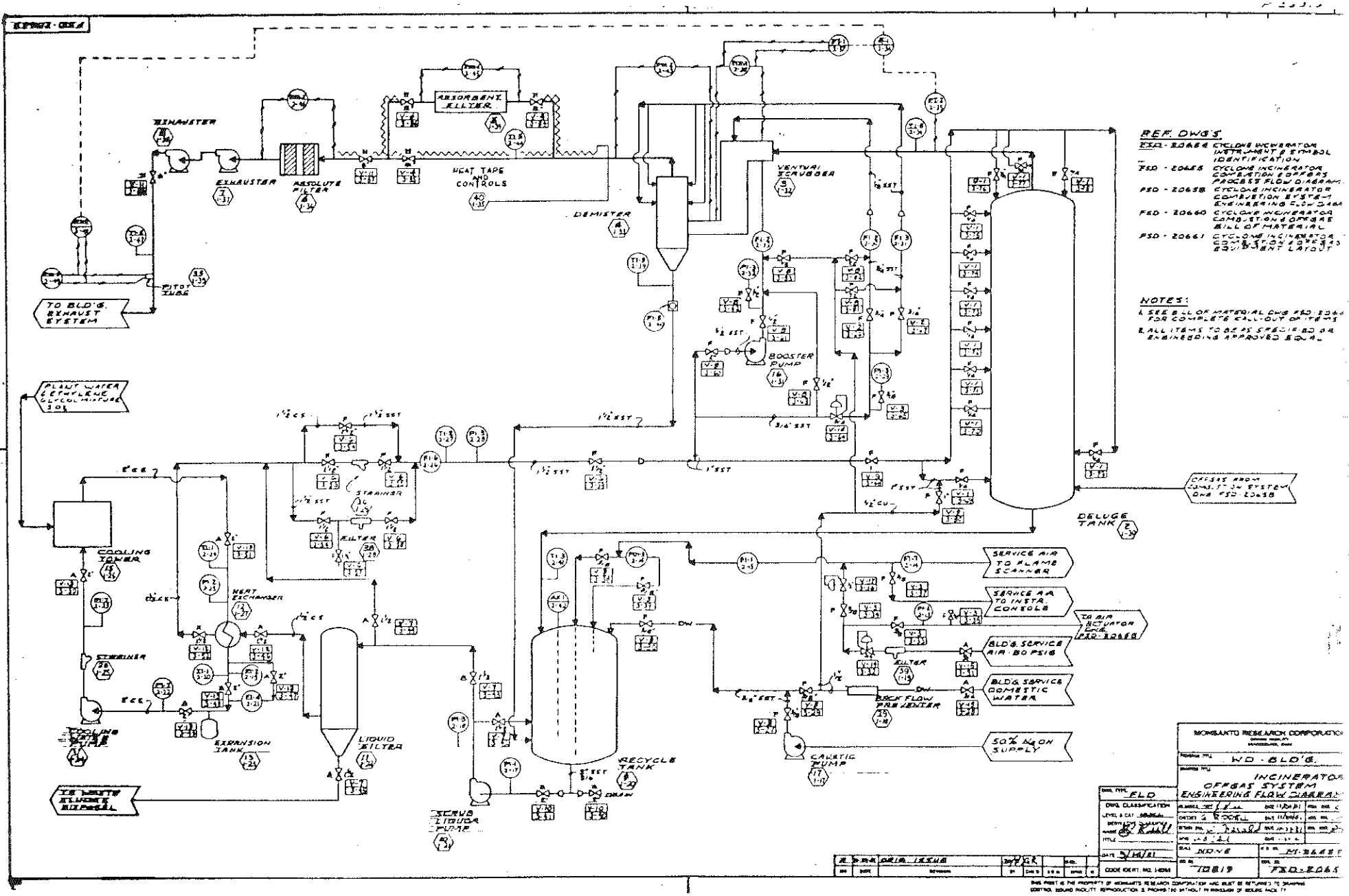


Figure 4-19. Engineering flow diagram of glass furnace offgas system

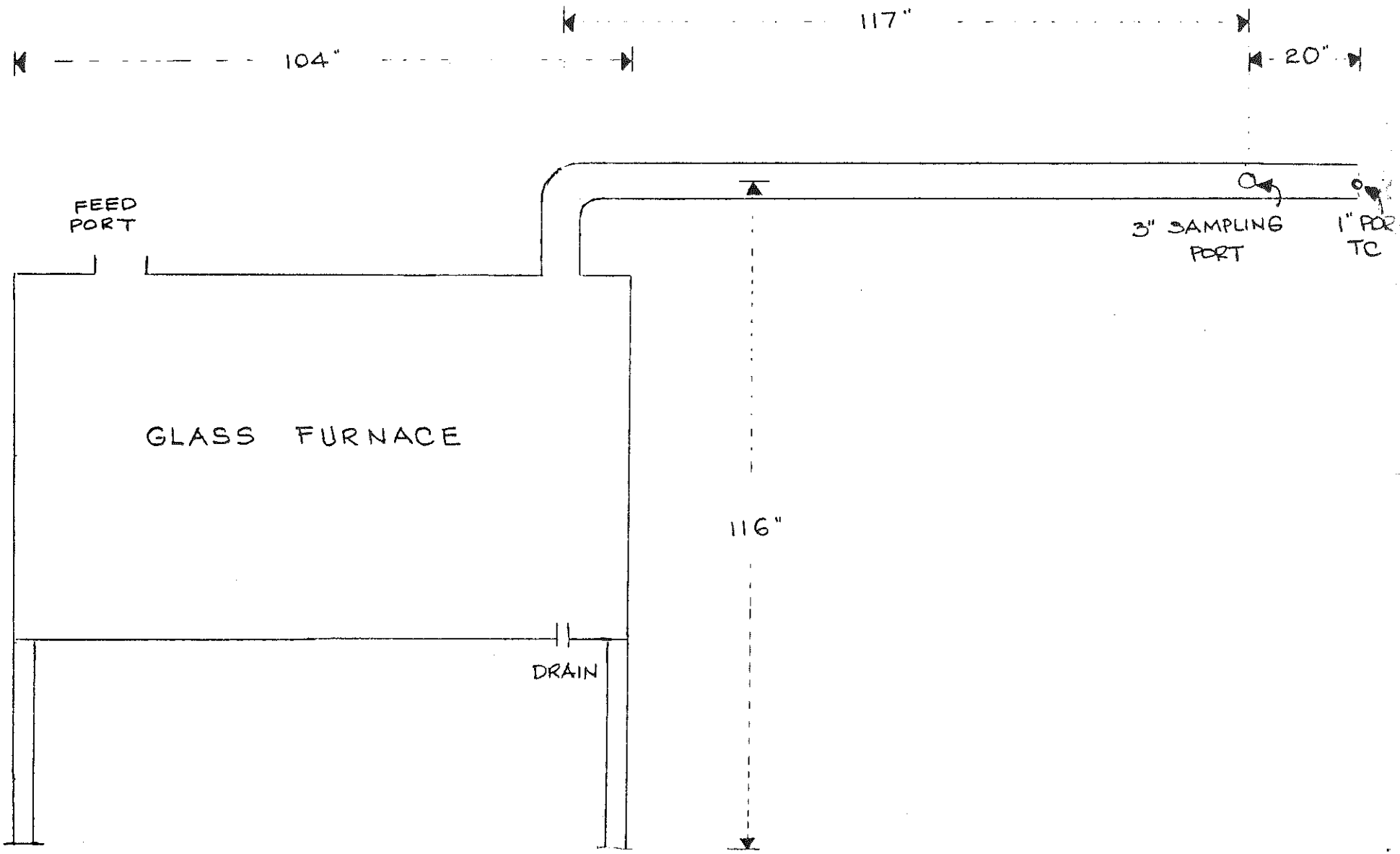


Figure 4-20 Process diagram details - Glass melter and prescrubber flue duct

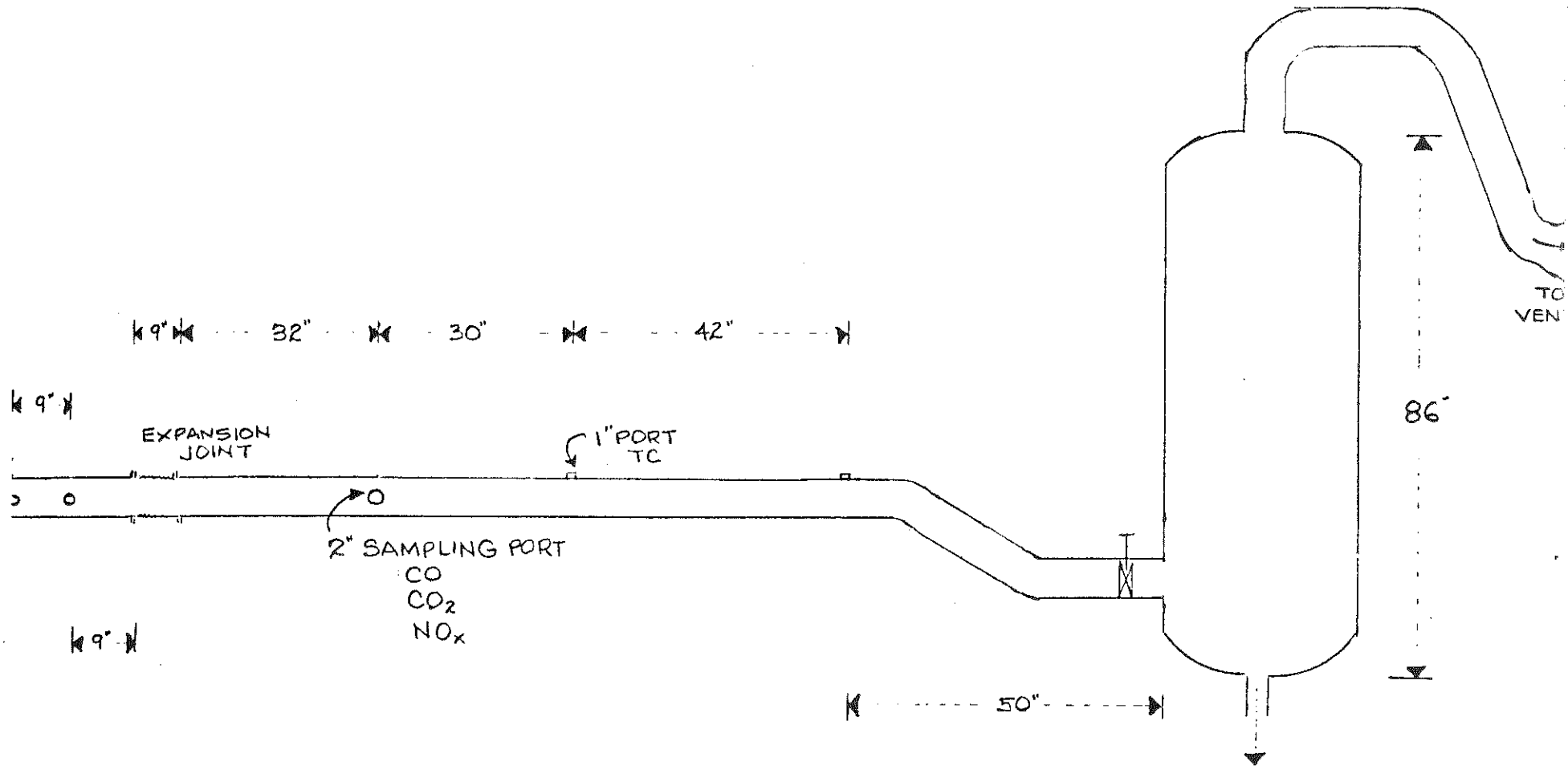


Figure 4-21. Process diagram details - Prescrubber flue to venturi scrubber

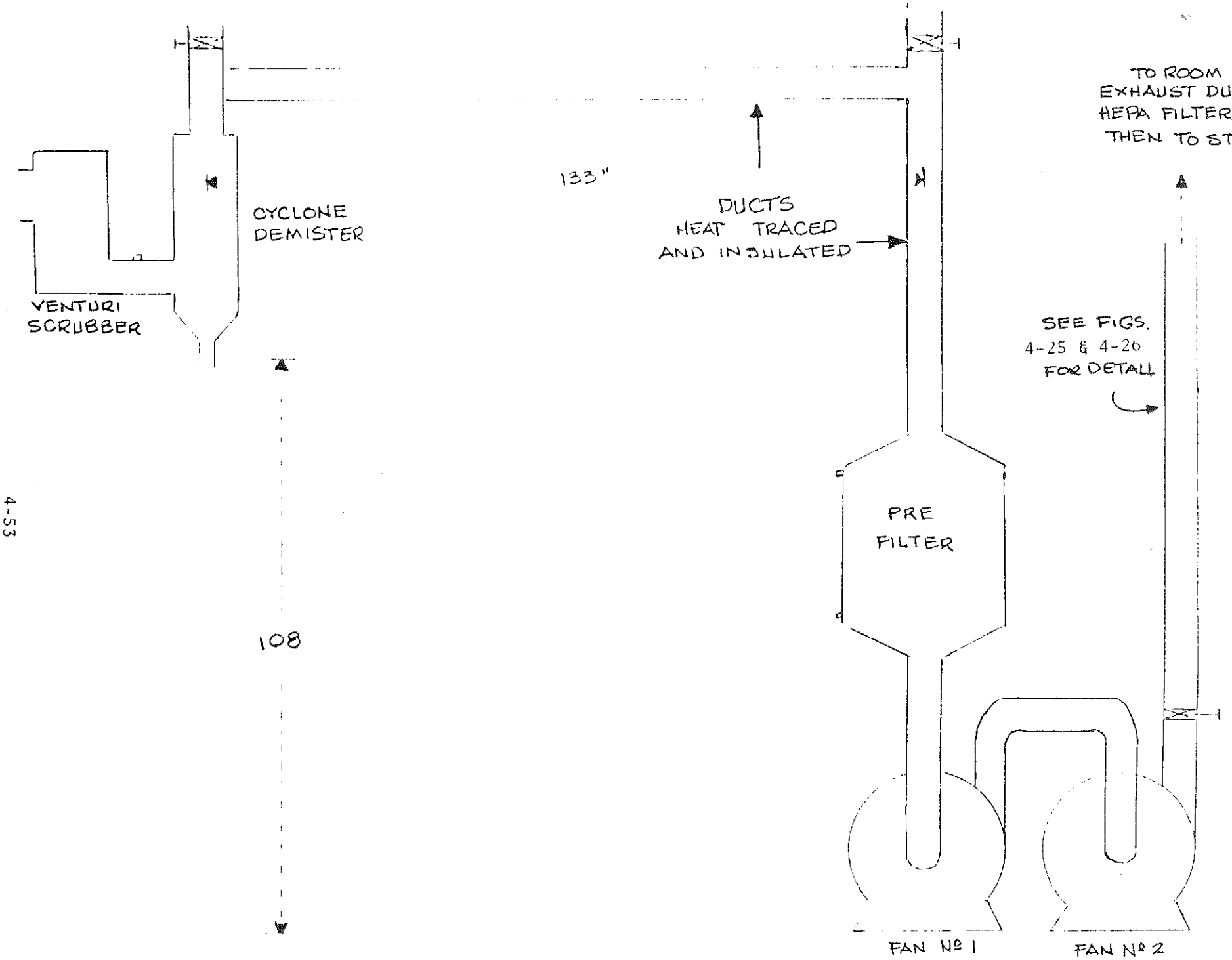


Figure 4-22. Process diagram details - Venturi scrubber to stack

Copy 47 of 55
Systems Manual 721
Emergency Preparedness System

Response Plan No. 9

Contingency Plan

Response to Fires, Explosions, or Releases of Hazardous Wastes, Hazardous Waste Constituents, and other Materials to Air, Soil, or Surface Water

Revised: October 1988

All previous editions are hereby superseded and should be destroyed.

NOT FOR PUBLIC DISSEMINATION

May contain unclassified controlled nuclear information subject to Section 148 of the Atomic Energy Act of 1954, as amended (42 U.S.C. 2168). Approval by the Department of Energy prior to release is required.

MOUND
Miamisburg, Ohio 45343

Operated for

UNITED STATES DEPARTMENT OF ENERGY
U.S. GOVERNMENT CONTRACT DE-AC04-88DP43495

Contingency Plan

PUBLICATION RECORD

Revised	Authorization
10/01/88	P. J. Marx

CONTENTS

CONTENTS

1. PURPOSE

This plan describes the actions to be taken in response to fires, explosions, or releases (e.g., spills) of hazardous wastes, hazardous waste constituents, and other materials to air, soil, or surface water that could threaten human health or the environment.

NOTE: Names and phone numbers of persons and organizations to be contacted are provided in Appendix A.

2. SCOPE

This plan pertains to hazardous wastes, hazardous waste constituents, and other materials designated by the Environmental Protection Agency (EPA) and the Department of Energy (DOE) in the references listed herein. It does not pertain to fires, explosions, or releases involving strictly radioactive materials. Special procedures for handling PCB for emergencies are provided in Appendix B, and special procedures for handling emergencies in the burn area are provided in Appendix C.

3. POLICY

Mound will respond to fires, explosions, or unplanned sudden or nonsudden releases of waste, hazardous waste constituents, and other materials to air, soil, or surface water to minimize hazards to human health or the environment and to comply with applicable federal, state, and local regulations.

4. REFERENCES

- National Oil and Hazardous Substances Pollution Contingency Plan, #40 CFR1510.
- MD-10135 Mound Emergency Planning System Master Plan.
- Ohio EPA Hazardous Waste Management Regulations, Ohio Administrative Code, Title 33745, Sections 50 through 55, 1987.
- U.S. EPA Regulations for Manufacturing, Processing, Distribution in Commerce, and Uses Prohibitions for Polychlorinated Biphenyls under the Toxic Substance Control Act, 40 CFR 761.

5. PLAN CONCEPT

Any fire, explosion, or releases of hazardous waste or hazardous waste constituents is considered an emergency. An appropriate Emergency Control Center (CCI/II level I and/or II) will be established. On-the-scene authority will be assumed by the ranking Fire Protection Officer, herein called the Emergency Response Coordinator (ERC). Mr. David L. Heitz, Fire Protection Supervisor, will serve as the ERC. In Mr. Heitz's absence and after normal working hours, the Fire Protection Officer onsite will serve as the ERC.

6. BACKGROUND INFORMATION

6.1. Site Description

- Site

  Mound is located in Miamisburg, Ohio, 12 miles south of Dayton, Ohio. This facility is operated by EG&G Mound Applied Technologies (MAT) for DOE under Contract No. DE-AC04-88DP43495.

- Office Responsible

  The EG&G contract is administered by the Dayton Area Office (DAO) of the U.S. Department of Energy, with offices located at Mound. The Albuquerque Operations Office is the responsible Field Office.

- Programs

  Mound (principal SIC Code 9711; other SIC Codes: 3483, 2819, and 3769) is an integrated research, development, and production facility performing work in support of DOE weapons and energy programs, with emphasis on explosives and nuclear technology.

  The weapons program missions include: process development, production engineering, manufacturing and surveillance of detonators, explosive timers, explosive actuated transducers, explosive pellets, nuclear components, and specific testing equipment.

  Energy related activities support the DOE programs and include research, development, and fabrication of radioisotope-fueled heat sources for space and terrestrial applications.

- Contractors

  EG&G Mound Applied Technologies is the sole contractor involved in waste generation and waste management activities at the Mound site.

- Lead Responsibility for Site Plan

  Mr. J. M. McGough, Jr., DOE/AL (WMTD) is the DOE officer assigned the lead role in maintaining an updated site plan.

6.2. Site Activities

- Waste Storage - Containerized hazardous wastes are stored in a covered open-ended structure (Bldg. 72), 40 ft x 60 ft, containing three rectangular diked areas with a concrete base, capable of holding 360 55-gallon drums single stacked.

  Containerized radioactive mixed waste (mostly scintillation vials) is stored in the east end of Bldg. 23. Containerized radioactive PCB waste is stored inside of a diked area in the northeast end of Bldg. 23.

  Solid hazardous explosive wastes are containerized in bags, trays, and suitcases and stored in a bunker (Bldg. 53) that meets DOD and DOE safety specifications and is located in the secure burn area where such wastes are destroyed.

- Waste Treatment - Open burning of hazardous explosive-contaminated wastes is conducted as needed and in accordance with minimum-distance requirements from such operations to the property of others. Some explosive waste is placed in an "incinerator", which consists principally of an open-top drum located inside of a container holding a cooling fluid to prevent overheating of the drum base and to reduce shock; the waste is covered with excelsior, ignited, and destroyed as needed. Waste detonators and explosive pellets are destroyed as needed in a retort, which consists of a propane-fired kiln that provides sufficient residue time and mixing for complete destruction of the waste, primarily by detonation.

  A cyclone incinerator and a glass melter are developmental units available for hazardous waste treatment. The incinerator includes a single-stage cyclonic combustion chamber, a wet off-gas treatment system, and a high-efficiency filter. The glass melter includes a refractory chamber with molten glass over which waste is burned, a wet off-gas treatment system, and a high efficiency filter.

- o Disposal Facilities - There are no onsite disposal facilities (i.e., placement of waste into or on land or water) at Mound for hazardous waste.

6.3. Wastes Handled

The following table lists the types of wastes that have been handled at Mound and the maximum quantities expected to be onsite. The hazards associated with these wastes are shown in Figure 1.

Waste type	Quantity
Organic solvents	11,000 gal
Paints and thinners	300 gal
Corrosive liquids	3,000 gal
Plating-bath wastes	120 gal
EP toxic wastes	250 gal
Polymeric wastes	200 gal
Photoprocessing wastes	1,600 gal
Explosive wastes	800 lb.
Radioactive mixed wastes	9,400 gal
Laboratory wastes	1,800 lb.

*Consists mostly of scintillation vials in 55-gal drums.

6.4. Site Plan

The major structural features of Mound, including topography, are shown in Figure 2 and listed in Figure 3. Hazardous waste storage and treatment facilities are noted. A map showing adjacent land features and uses that could be affected by an emergency situation is provided in Figure 4.

FIGURE 1: HAZARDS ASSOCIATED WITH WASTE HANDLED

Waste Type	Fire/Explosion	Health Hazards
EP toxic waste	Some of these materials may burn not none them ignite easily.	Poisonous if swallowed. Inhalation of dust poisonous. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution.
Polymeric waste	Flammable/combustible material; may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.	May be poisonous if inhaled or absorbed through skin. Vapors may cause dizziness or suffocation. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution may cause pollution.
Photo waste	Some of these materials may burn but none of them ignite readily. Flammable/poisonous gases may accumulate in tanks and hopper cars. Some of these materials may ignite combustibles (wood, paper, oil, etc.)	If inhaled, may be harmful; contact may cause burns to skin and eyes. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution.
Explosive waste	May explode if fire reaches cargo area.	Fire may produce irritating or poisonous gases.

FIGURE 1 (Continued)

Waste Type	Fire/Explosion	Health Hazards
Radioactive mixed wastes	Some of these materials may burn but none ignite readily.	External radiation from unshielded radioactive material. Internal radiation from inhalation, ingestion or skin absorption. Radioactive material; degree of hazard will vary greatly, depending on type and quantity of radioactive material. Runoff from fire control or dilution may cause pollution.
Laboratory waste	May burn rapidly. May ignite other combustible materials (wood, paper, oil, etc.) Reaction with water may be violent. Flammable/poisonous gases may accumulate in tanks and hopper cars. Runoff to sewer may create fire or explosion hazard.	Vapors or dust may be irritating. If poisonous, may be fatal inhaled, swallowed or absorbed through skin. Contact may cause burns to skin and eyes. Runoff from fire control or dilution water may cause pollution.
Organic solvents	Flammable/combustible material; may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.	May be poisonous if inhaled or absorbed through skin. Vapors may cause dizziness or suffocation. Contact may irritate or burn skin and eyes. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution may cause pollution.

FIGURE 1 (Continued)

Waste Type	Fire/Explosion	Health Hazards
Coal tar compounds	Flammable/combustible material; may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.	May be poisonous if inhaled or absorbed through skin. Vapors may cause dizziness or suffocation. Contact may irritate or burn skin and eyes. Fire may produce irritating or poisonous gases.
Paint and thinner	Vapors may cause dizziness or suffocation. Exposure in an enclosed area may be very harmful. Contact may irritate or burn skin and eyes. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. Flammable/combustible material; may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.	May be poisonous if inhaled or absorbed through skin. Vapors may cause dizziness or suffocation. Contact may irritate or burn skin or eyes. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. Some of these materials may burn but none of them ignite readily. Most vapors are heavier than air. Container may explode in heat of fire.

FIGURE 1 (Continued)

Waste Type	Fire/Explosion	Health Hazards
Corrosives	Some of these materials may burn but none of them ignite readily. Flammable/poisonous gases may accumulate in tanks and hopper cars. Some of these materials may ignite combustibles (wood, paper, oil, etc.)	Contact causes burns to skin and eyes. If inhaled, may be harmful. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution.
Plating waste	Some of these materials may burn but none of them ignite readily. Flammable/poisonous gases may accumulate in tanks and hopper cars. Some of these materials may ignite combustibles (wood, paper, oil, etc.)	Poisonous; may be fatal if inhaled, swallowed or absorbed through skin. Contact may cause burns to skin and eyes. Runoff from fire control water may give off poisonous gases. Runoff from fire control or dilution may cause pollution.

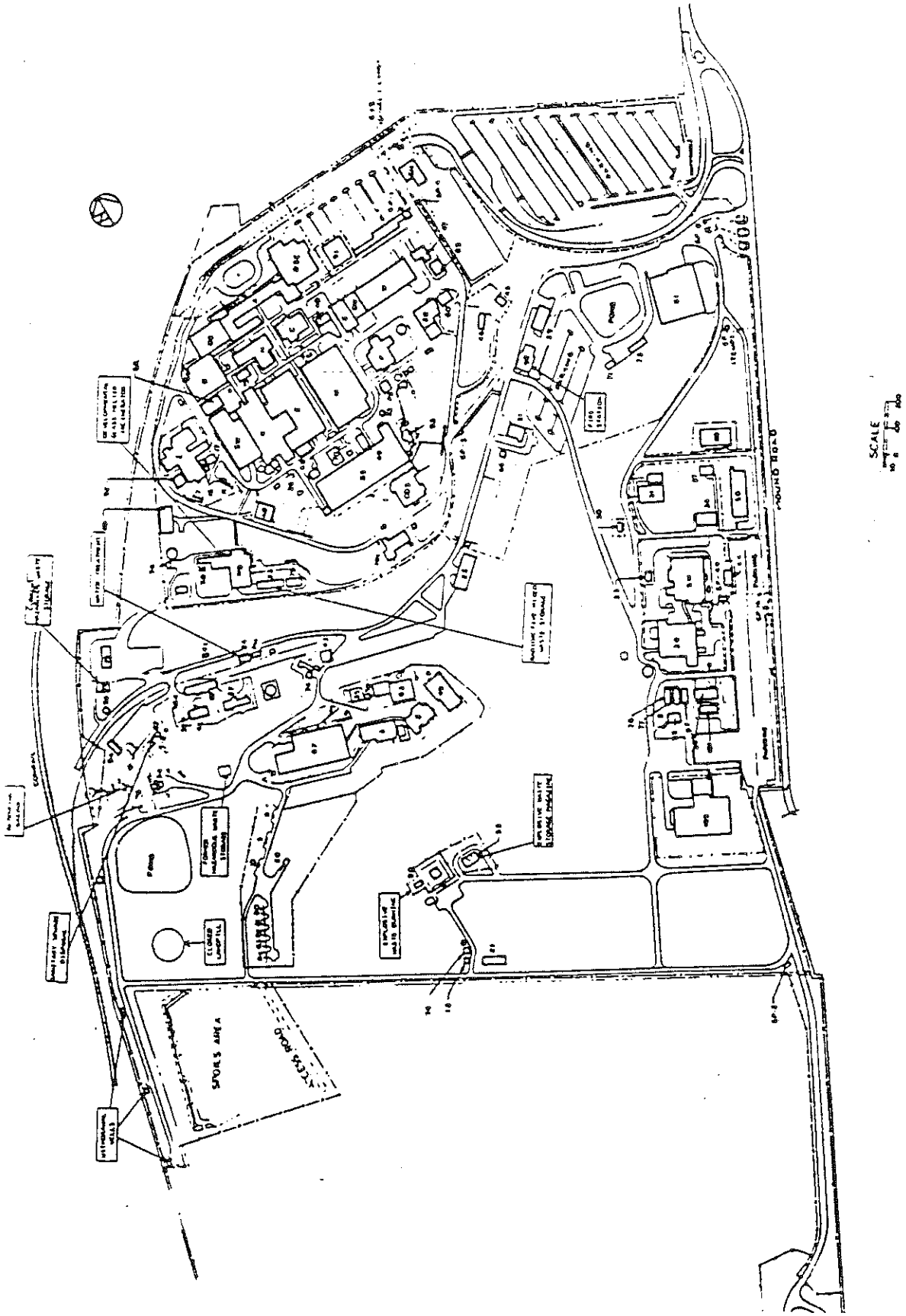


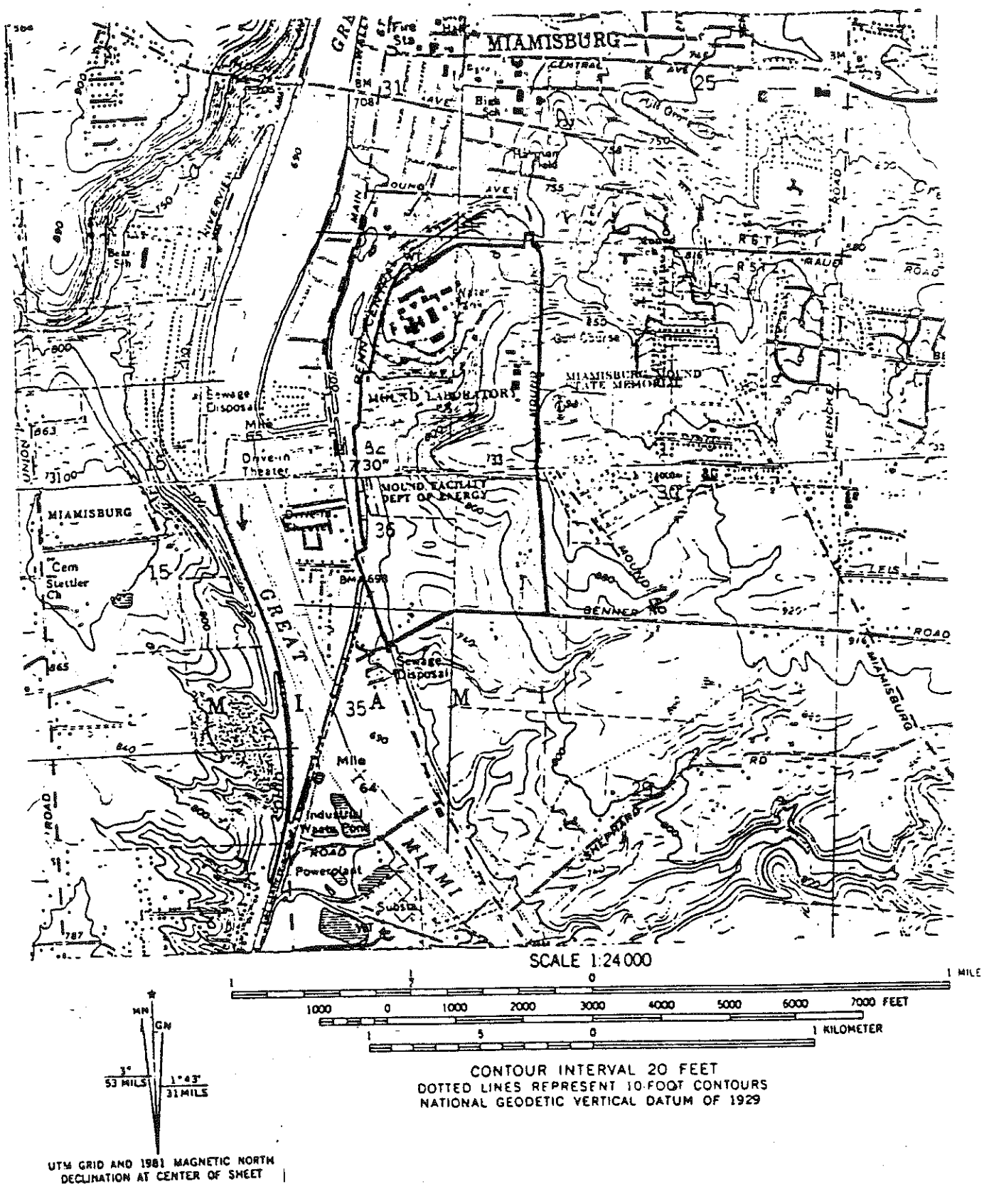
FIGURE 2: SITE PLAN

ML-8444

FIGURE 3: BUILDING CODE FOR FIGURE 2

BUILDING	FUNCTION
A	Administration
B	Detonator Manufacture Inert Components
C	Cafeteria
DS	Explosive Components Development & Standards
E	Detonator Production Explosives Analytical Support Development Counting
G	Garage Motor Pool
GH	Security
GP#1	Guard Post #1 Headquarters
GW	Bonded Stores
M	Change House and Laundry
MN	Stable Isotope Separation
I	Detonator Manufacture Explosive Components
M	Machine Shop
OS	Computer Facility/Drafting
P	Powerhouse
PM	Oil Pump House
PS	Paint Shop
R	Research & Technical Information Center
R&R	Empty
SD	Sanitary Disposal
SM	Special Metallurgical Processing
SST	Salt Storage
SW	Disassembly and Surveillance Classified Fabrication, Special Devices, Cave-Isotope Separation of Irradiated Materials
T	Technical Building
W	Warehouse/Maintenance Shop
WD	Radioactive Waste Disposal
GSA	Off-Site Warehouse
1	Crystallization Building
2	Test Firing
3	Test Firing
4	Magazine
5	Magazine
6	Magazine
7	Magazine
8	Magazine
9	Magazine
10	Magazine
11	Magazine
12	Storage Warehouse-Explosives/TF
13	Burn Area Firing Shed
14	Lead Melting
16	Storage Warehouse 0 I Building
17	Storage Warehouse 0 I Building
18	Storage Warehouse-Explosives/TF
19	Storage Warehouse-Excess Material
20	Magazine
21	Thorium Sludge Storage
22	Storage Warehouses
23	Waste Materials Staging Center
24	Water Treatment Plant
25	Meteorological Station
26	Area Maintenance
27	Explosive Processing
28	Plastic Development
29	Plastic Formulation Facility
30	Gamma Scan
31	Contaminated Materials Storage Warehouse
33	SM Maintenance Building
34	FD Training Facility
35	Non-Destsructive Testing Facility
36	System & Capsule Design Testing Facility
37	Radioactive Heat Source Testing Facility
38	Plutonium Processing
39	Warehouse/Fiberglassing Facility
40	Printing Services
41	WD Rundown Tanks
42	Pyrotechnic Component Fabrication Facility
43	Addition to Explosive Preparation Complex
44	SM Cafeteria
45	Neutron Standards and Multiplication Facility
46	Welding Development
47	Central Fire Station
48	Process Mechanization
49	Timer Fabrication
50	GPHS Assembly & Testing
51	Incinerator
52	Magazine
53	Magazine
54	Magazine
55	Effluent Water Continuous Monitoring System
56	Fire Pump House
57	Sewage Treatment Plant
58	High Filtration Plant
59	Neutron Radiography
60	Ceramic Facility
61	Logistical Support Warehouse/Purchasing
62	Aqueous Tritiated Waste Facility
63	Surveillance Facility
64	Magazine
65	Modular Office
66	Modular Office
67	Modular Office
68	D&D Facility
69	Modular Office
70	Modular Office
Deep Wells	1, 2, and 3
71	Flammable Liquid Storage
72	Chemical Waste
73	Gas Cylinder Storage
74	Explosive Packaging
75	Modular
76	Modular
77	Modular
78	Modular
79	Modular
80	Modular
89	HE Storage
90	Retort
91	Modular-A Building
92	Modular-I Building
93	Modular-DS
98	Firestation

FIGURE 4: PORTION OF TOPOGRAPHIC MAP OF MOUND SHOWING SURFACE WATER AND LAND USES AROUND PLANT SITE



7. RESPONSIBILITIES AND PROCEDURES

7.1. Employees

Employees will report fires, explosions, or releases of oils, hazardous substances, or hazardous wastes by dialing 7111, by contacting the radio, or by manually activating the fire alarm box.

7.2. Emergency Response Coordinator

The EG&G MAT ERC will:

- Be familiar with all processes and aspects of this Contingency Plan.
- Direct and coordinate all internal emergency response measures needed to control and minimize the hazards associated with fire, explosion, or release of oils, hazardous substances, or hazardous wastes that could threaten human health or the environment.
  - Commit the site resources needed to implement this plan.
  - Employ the services of the site Spill Management Team if the emergency involves a spill. (The Spill Management Team includes representatives from the Environmental Section, Industrial Hygiene, Technical Support Waste Management, and Facilities Maintenance.)
  - Obtain advice and assistance from site Hazardous Waste Management (HWM) personnel, who are members of the Technical Services Group, Technical Support Section.
- Activate internal alarms or communication systems to notify facility personnel of the emergency, notify the Miamisburg Fire and Police Division if necessary, and inform the appropriate local authorities.
- Report his findings regarding a release, fire, or explosion that could threaten human health or the environment outside the facility, through the Safety Manager to the EG&G MAT President, the DOE-DAO Manager, and the site Public Relations Manager; recommend evacuation of local areas, if deemed advisable, through the Safety Manager to the EG&G MAT President and the DOE-DAO Manager and/or the DAO Duty Officer for after hours and weekends, who will notify the appropriate authorities.

- Utilize the services of site HWM personnel and other personnel to characterize and quantify any released materials and to assess possible hazards to human health or the environment that may result from any release, fire, or explosion. The assessment will include the effects of generated gases and surface water run-off from water or chemical agents used to control the emergency situation.

- Take all reasonable measures necessary to ensure that fires, explosions, and releases do not occur, recur, or spread to other hazardous wastes or materials or other areas of the site. Measures will include, as applicable, stopping processes and operations, collecting and containing released waste, and removing or isolating containers.

- Monitor for leaks, pressure buildup, gas generation, or ruptures in valves, pipes, or other equipment, as appropriate, whenever the facility stops opertions in response to a fire, explosion, or release.

- Contact, if necessary, Chemical Transportation Emergency Center (CHEMTREC), a 24-hour public service offered by the Chemical Manufacturers Association (800-424-9300), or other information sources to obtain immediate advice on the emergency at hand.

- Provide for the proper treatment, storage, and disposal of all waste, contaminated soil or surface water, or any other material resulting from the release, fire, or explosion, and ensure the emergency response measures taken.

  - Ensure that, in the affected area(s) of the facility, no waste that may be incompatible with the released material is treated, stored, or disposed of until cleanup procedures are completed.

  - Ensure that all used emergency equipment is cleaned and ready for reuse before operations are resumed.

- Utilize, as appropriate, the guidance provided in Appendix E of this plan for responding to toxic fumes or gas generation, contact with incompatible materials, major spills, and minor leaks.

7.3. Security Communications Center

The EG&G MAT Security Communications Center will sound the emergency tone and use the emergency paging system to direct emergency response personnel to the emergency location.

7.4. Hazardous Waste Management Personnel

The EG&G MAT HWM personnel will:

- Advises and assist the ERC in any emergency involving hazardous wastes.
- Manage as hazardous waste, any recovered waste, contaminated soil or surface water, or other material resulting from a fire, explosion, or release, unless it can be shown that such material is not hazardous.
- Note the time, date, and details of any incident that requires implementation of this plan in the operating record; submit a written report on the incident to the DOE-DAO Manager for forwarding to the Ohio EPA Director within fifteen days after the incident. The report should identify the owner/operator and describe the incident, the materials involved, any injuries, potential hazards to human health or the environment, and the quantity and disposition of recovered material.
- Report the findings to the Security Supervisor in the event that vandalism is evident or suspected with respect to hazardous waste. The Security Supervisor will initiate actions following an established procedure to investigate the situation, determine the source and reason for the vandalism, and take corrective action, which could include disciplinary action against the person(s) involved, as well as involvement of the FBI.
- Supervise the removal of the containers of waste requiring such action, using appropriate personnel and equipment.
- Identify the type and quantity of material released and consult with site industrial hygiene and site environmental personnel in the event of a waste release, to determine its potential hazard to human health on the environment.

7.5. Safety Manager

The EG&G MAT Safety Manager will:

- Establish CCI/II to mobilize and coordinate facility resources in support of emergency operations.
- Inform the appropriate EG&G MAT and DOE personnel of any fire, explosion, or release that could threaten human health or the environment outside Mound.
- Recommend evacuation of local areas to the EG&G MAT President and the DOE-DAO Manager for decision, if such evacuation appears advisable.
- Alert the CCI/II staff for briefing and decision making if it is determined that EOC activation may be needed. The CCI/II staff consists of the EG&G MAT President and his Department Directors, the DOE-DAO Manager, health and safety representatives, and other key personnel.
- Advise management of the need to notify federal and local officials based on advice of the ERC.

7.6. Spill Management Team

The EG&G MAT Spill Management Team will:

- Direct the facility resources, through authority of the onsite Fire Protection Officer and CCI/II, to control and/or clean up the spill and to mitigate potential consequences.
- Provide technical expertise on control and cleanup to ensure personnel safety and compliance with applicable government regulations.
- Advise the CCI/II on relevant aspects of the spill and of any response requirements including, but not limited to, notification of federal, state, and local officials.

7.7. DOE-DAO Manager

The DOE-DAO Manager will:

- Decide, in consultation with the EG&G MAT President, on the necessity to evacuate site facilities and/or to recommend evacuations of local areas to appropriate local state or national authorities. Activate the CCI/II and notify the AL Duty Officer as appropriate.

- Report to the National Response Center (800-424-8802) the release of any oil or hazardous substance stipulated by the Superfund Program (The Comprehensive Environmental Responses, Compensation, and Liability Act of 1980), if the release exceeds the reportable quantity.

- Notify the Ohio EPA Emergency Response Team (800-282-9378) and provide the name and phone number of the reporter, the name and address of the facility, the time and type of incident, the name and quantity of material(s) involved, the extent of any injuries, and the possible hazards to human health or the environment outside the facility.

- Notify the Ohio EPA Director and appropriate local authorities when the facility is ready to resume operations, after cleanup procedures have been completed and all emergency equipment listed in the Contingency Plan has been cleaned and made fit for its intended use.

- Submit a written report of any incident that requires implementing the Contingency Plan to the Ohio EPA Director within 15 days after the incident.

- Notify the U.S. Coast Guard/EPA National Responses Center in the event of any discharge of oil or hazardous substance in violation of the Water Pollution Control Act as soon as the ranking official at the facility is aware that the discharge is in violation of 33 CFR 153.201. Discharge violations will include 1) oil spills that violate water quality standards, causes a sheen on the surface of the water or shore, or cause a sludge or emulsion to be deposited beneath the water surface and 2) the discharge of hazardous substances designated in 40 CFR 116 in amounts exceeding the reportable quantities specified in 40 CFR 117.

7.8. Public Relations Manager

The EG&G MAT Public Relations Manager will:

- Be fully informed of any fire, explosion, or release of oils, hazardous substances, and hazardous wastes to air, soil, or surface water that could threaten human health or the environment.
- Be aware of any recommendations to evacuate local areas and of any reports made to the Ohio EPA, the National Response Center, the U.S. Coast Guard, EPA, or other Government organization.
- Respond to inquiries from the media and other persons outside of Mound.
- Prepare and issue press releases initiated by Mound to inform the public of emergency situations as needed. The issuance of a press release will be coordinated with DAO/AL prior to release to the media.

7.9. Coordinator of Emergency Plans

The EG&G MAT Coordinator of Emergency Plans will maintain this plan and keep users of oils, hazardous substances, and hazardous wastes advised of the plan.

8. EMERGENCY SUPPLIES AND EQUIPMENT

8.1. Basic Health and Safety Equipment

The basic first aid, health, and safety equipment listed below coupled with a knowledge of the wastes involved and experience in working with such materials, enables the ERC and site waste management personnel to handle any hazardous waste at the facility.

ITEM	LOCATION (See Figure 2)	REMARKS
Protective clothing and equipment	Bldg. 72	Includes face shields, gloves, aprons, etc.
Portable fire extinguishers	Bldg. 72 Bldg. 23	For fire control
Portable eye wash station	Bldg. 72	For flushing eyes with water
Telephone	Bldg. 72, Bldg. 23, WD Annex	For communication between waste management personnel and others, including Security Communications Center Operator who can summon any help needed.
Grounding straps	Bldg. 72	For eliminating static while transferring flammable liquids wastes between containers.
Overpark drums	Bldg. 72	For repacking a smaller leaking or damaged container of waste by inserting it inside of larger overpack drum.
Personnel protective equipment and supplies	Bldg. 61; also stored by spill response team members at their work stations	Include various assorted items.
Acid suits	Bldg. 90 (Fire Station)	Provides protection against skin contact with acids.
Class A fire pumper	Bldg. 96 (Fire Station)	Includes 750-gpm pump and a 300-gallon booster tank; carries 700 feet of 3-inch supply hose, 800 feet of 2 1/2 inch hose, and 300 feet of preconnected 1 1/2-inch hose. Unit include four Air Packs and tools/ equipment for fighting fires.

ITEM	LOCATION (See Figure 2)	REMARKS
4 x 4 Pumper	Bldg. 90 (Fire Station)	Includes 300-gallon booster tank and high-pressure pump that allows extinguishing large fire with minimum amount of water. Unit includes Air Packs, supply fire hose, and other equipment.
Alcohol-resistant foam concentrates	Bldg. 96 (Fire Station)	Includes equipment for applying foam; 400 gallons on hand.
Ambulance	Bldg. 96 (Fire Station)	Includes standard equipment for emergency care and transportation of sick or injured persons.

8.2. Spill Control Equipment

The following spill control supplies and resources are available:

ITEM	LOCATION (See Figure 2)	REMARKS
Absorbent materials	Bldg. 72	Includes foams, pillows, etc., for absorbing liquids.
Absorb-All	Bldg. 72	For absorbing liquids.
Backhoe, bulldozer, crane, tractors, trucks, end-loader, yard tractor with snow blades	G Bldg. (Garage) and various non-fixed locations	Mechanical equipment for digging and moving soil and materials.

Offsite equipment includes a small boat with motor, emergency lighting, and acid suit, which are available from the Miamisburg Fire Department. Heavy-duty, large spill control/cleanup equipment and services are available on a 24-hour emergency basis from: 1) the Dayton Fire Department's Arson Abatement Unit (225-5584); 2) Ford Brothers, P.O. Box 727, Ironton, Ohio, 45638 (614-532-3143); 3) O.H. Materials Company, P.O. Box 1022, Findlay, Ohio 45840 (419-423-3526 or 800-537-5660); and 4) Associated Chemical & Environmental Services (ACES), 876 Ottes Creek Road, Oregon, Ohio 43616 (419-726-1521).

8.3. Decontamination Equipment

Decontamination involves the removal of all hazardous waste and residues from contaminated equipment and structures It consists of 1) identifying the contaminated items and determining the nature and extent of contamination; 2) selecting appropriate cleaning procedures, including equipment and media; 3) decontaminating the items, and collecting/containerizing the cleaning fluids and residues for offsite disposal; and 4) sending for offsite disposal for those items that cannot be properly decontaminated.

Decontamination will be accomplished by 1) washing with soap and water; 2) solvent flushing; 3) hydraulic scouring and blasting; 4) steam blasting; and 5) manual or mechanical removal of waste. Appropriate supplies and equipment available onsite will be used as listed below.

ITEM	LOCATION (See Figure 2)	REMARKS
Soap	Various locations	Cleansing medium
Water	Various locations	For use in washing, rinsing, etc.
Organic solvents	Bldg. 61;	For use as dilutent
Drums and other containers	Bldg. 72; Bldg. 61; Bldg. 22	For containing residue, cleaning material, etc.
Hoses, pumps, vacuum equipment	Garage; machine shop	For transporting flammable materials
Hand tools, shovels, and earth-moving equipment	Garage; machine shop, various locations	For moving solid materials and/or misc. work
Personal protection equipment	Bldg. 61	Includes protective suits, goggles, gloves, boots, coveralls, and hard hats

8.4. Coordination Arrangements

Mound's 24-hour onsite Fire Department, comprised of equipment and personnel trained and experienced in fire fighting and responding to emergency situations, can reach the hazardous waste storage facility in about two minutes. Mound's full-time guard force, charged principally with maintaining site security, is also trained in basic emergency responses procedures. In view of this around-the-clock onsite capability, no written agreements have been developed with local police, fire departments, or emergency response teams for the potential need for their services.

However, we are confident that, in the event of a major fire or emergency beyond the capability of our onsite personnel, the Miamisburg Fire and Police Divisions will respond to Mound's needs and provide all necessary services. The Miamisburg Fire Division has, in fact, participated in practice drills at Mound with the Mound Fire Department.

Mound's doctor and nurses onduty during normal working hours are familiar with the types of injuries or illnesses that could result from fires, explosions, or releases of oils, hazardous substances, and hazardous wastes. In view of this resource and the site practice that all operations involving the handling of oils, hazardous substances, and hazardous wastes occur virtually always during normal working hours, no formal arrangements have been made with local hospitals for the potential need for their services. However, it is expected that local hospitals will provide any emergency services required by Mound.

8.5. Evacuation Plan

Basic safety and health equipment is located at the waste storage facility for use in controlling minor emergencies. Supplementary equipment and resources, including personnel trained in emergency response procedures, are available from the 24-hour onsite Fire Department and safety personnel, as well as the doctor and nurses onduty during normal working hours. In view of these available resources and the restricted nature of our hazardous waste storage facility, we do not anticipate the need for evacuation of Bldg. 72, and no evacuation plan has been developed for that purpose.

Annex A of Mound's Emergency Preparedness System (MD-10135), entitled General Emergency Procedure, describes the signals, onsite responsibilities, instructions to take cover, and other relevent information regarding emergencies and building evacuation. This Annex is included in Appendix C of this contingency Plan. Instructions to take cover or evacuate buildings are provided via our public address system. Maps and signs in each building show specific evacuation routes and areas.

9. CONTINGENCY PLAN DISTRIBUTION

This contingency plan is maintained in the Waste Management area, which is part of the Operational Safety function of the Administration Department, and in the office of Mound's Emergency Response Coordinator.

Although we believe that Mound emergency response personnel and equipment can satisfactorily handle any emergency onsite involving hazardous waste, copies of our contingency plan have been sent to the following:

Organization	Phone
City of Miamisburg, Fire and Police Division, Miamisburg, Ohio	513-866-3303
Sycamore Hospital, 2150 Leiter Rd., Miamisburg, Ohio	513-866-0551
OEPA Emergency Response Team, P.O. Box 1049, 1800 WaterMark Dr., Columbus, Ohio 43266-1049	614-942-8261

Sycamore Hospital has been provided with guidance regarding the number of potential exposures at Mound in the event of a fire, explosion or release of hazardous waste or hazardous waste constituents that could threaten human health or the environment.

APPENDIX A

EMERGENCY CONTACTS

Site Person	Name	Office Phone
President, EG&G Mound Applied Technologies	Donald E. Michel	865-5090 Home: 439-2005
Emergency Response Coordinator*	D. L. Heitz, Fire Protection Supervisor 7609 Lower Miamisburg Rd. Miamisburg, Ohio 45342	865-3125 Home: 866-5390
Emergency Response Coordinator*	Senior Fire Protection Officer on Duty	
	Daniel E. Bechtol 647 Mears Dr. Miamisburg, OH 45342	865-3313 Home: 866-5390
	Charles G. Geloff 536 Gabriel St. Vandalia, OH 45377	865-3313 Home: 898-3067
	Charles W. Izor 42 Washington Street Farmersville, OH 45325	865-4322 Home:1-696-2271
	Paul L. Kulback 835 Glenstone Court Trotwood, OH 45426	865-3313 Home: 837-3760
	V. Ray Hensley 661 Fairview Drive Carlisle, OH 45005	865-3313 Home:1-746-2491
Manager, DOE Dayton Area Office	James A. Morley	865-3597 Home: 859-6592
DAO Safety and Occupational Health Manager	Allen D. Bickerton	865-3597 Home: 439-5965

APPENDIX A (Continued)

Site Person	Name	Office Phone
Public Relations Manager	H. I. Charbeneau	865-3002 Home: 866-7417
Safety Manager	L. W. Metcalf	865-3924 Home: 433-5483
ACES (Associated Chemical & Environmental Services)	876 Ottes Creek Road Oregon, OH 43616	419-726-1521
CHEMTREC (Chemical Transportation Emergency Center	--	800-424-9300
Dayton Fire Dept. Arson Abatement Unit	300 North Main Street Dayton, OH 45402	225-5584
Ford Brothers	P.O. Box 727 Ironton, OH 45638	614-532-3143
National Response Center	--	800-424-8802
Ohio EPA Emergency Response Team	--	614-942-8261
Ohio EPA Director	P.O. Box 1049 1800 WaterMark Drive Columbus, Ohio 43266-1049	614-644-2782
O.H. Materials Co.	P.O. Box 1022 Findlay, OH 45840	419-423-3526 or 800-537-5660
Orr Safety Supply	11379 Grooms Road Cincinnati, OH	890-7984
U.S. Coast Guard/ EPA National Response Center	2100 Second St., - S.W. Washington, D.C. 20593	800-424-8802

APPENDIX B

PCB EMERGENCY HANDLING PROCEDURES

LOCATIONS

PCBs are used in electrical transformers, capacitors and some hydraulic systems throughout the facility. Any leakage of an oil-like substance from such equipment should be treated as if it were PCBs or PCB contaminated.

PROCEDURES

Avoid Skin Contact

PCBs can cause chloracne, acne-like skin erruptions and skin lesions. Personnel exposed to such materials should:

- o Wear proper protective clothing (rubber gloves, boots)
- o Use good personal hygiene; wash hands, remove soiled clothing before smoking or eating.
- o Use a respirator equipped with organic vapor filters.

Clean Up Spills

Determine the extent of the spill by lab analysis, if necessary.

- o If the leak is minor (less than 0.5 oz/hr)
  - Consult supervision and correct.
  - Notify Industrial Hygiene and Waste Management of corrective steps taken.
- o If the leak is significant (greater than 0.5 oz/hr with no indication of equipment damage)
  - Call supervisor to report incident; supervisor should then notify Industrial Hygiene.
  - Obtain recommendations for corrective action from site HWM personnel.

- o If the leak is critical (greater than 2.0 oz/hr)
  - Call Emergency Extension 7111 for the Spill Management Team.

Remove and package all PCB clean-up materials; e.g., swabs, rags, brushes, soil, sorbent, etc.

Package waste in DOE 17C, 30-gallon open-head drum, or use DOT 17E 55-gallon drum for liquid PCB mixtures.

PCBs from spill clean-up and removal operation must be stored and disposed in accordance with 40 CFR 761.1.

Decontaminate Containers

Containers used for PCBs must be decontaminated as follows:

- o Flush container three times with solvent containing less than 0.05% PCB.
- o Use a volume of rinse solution that is at least 10% of the container capacity.
- o Limit the solvent life to 0.5% PCBs.

APPENDIX C

GUIDANCE FOR EMERGENCIES IN THE BURN AREA

This Appendix provides specific guidance for emergency situations in the burn area. The DOE Explosives Safety Manual, DOE/EV/06194-2, requires that a written plan exist for the control of emergencies involving explosives.

General Rules

- The basic response to an unplanned fire or explosion is for personnel to get out of the active area of the facility and to remain at a safe distance until it is safe to return.
- Personnel are not allowed to work in the burn area unless they have been properly trained in the handling and destruction of explosive waste by open burning, incineration, and retorting.
- Just one operation can take place in the burn area at a given time; i.e., only open burning, or only incineration or only retorting.
- The explosives storage magazine cannot be occupied while waste destruction operations are underway.
- In the event of an unplanned detonation or explosion, personnel should remain in the remote control shed area and notify the Production Supervisor, who will wait at least 1/2 hour before entering the burn area to evaluate and rectify the situation.

Emergency Response Coordinators

The Contingency Plan designates the site Emergency Response Coordinator and alternate personnel who can serve in that capacity for any site emergency. In addition, the following personnel are qualified to serve as Emergency Response Coordinator for emergencies in the burn area:

Name	Address	Phone (Area 513) Office	Home
James Harrison	119 Stadia Dr., Franklin, Ohio 45005	865-4260	746-2645
Daniel Gorman	2323 Andrew Rd., Kettering, Ohio 45440	865-3239	434-4980

Name	Address	Phone (Area 513) Office	Home
Walter R. Vinings	1424 Cardington Rd., Kettering, Ohio 45409	865-4237	298-3623

Emergency Equipment

The Contingency Plan lists the emergency equipment available at Mound for any situation. In addition, the following emergency equipment is available at the burn area.

- Portable fire extinguishers
- Telephone
- Internal communications system

The fire extinguishers would be used only for a non-waste fire.

Evacuation Plan

Owing to the limited access to the burn area and the practice that only two persons are present for virtually all operations in the burn area, no special evacuation plan is necessary, and no real need for such a plan is evident.

APPENDIX D

GENERAL EMERGENCY PROCEDURES AND BRIGADE RESPONSIBILITIES

PURPOSE

To set forth those general emergency procedures which apply to and should be known by every employee at Mound.

SCOPE

The following procedures apply to emergencies resulting from fire, explosion, acts of nature, release of toxic material, enemy action or personal injury.

RESPONSIBILITY

- o Fire Protection Group
  - Maintain primary on-the-scene-control until the "All Clear" is sounded.
- o Emergency Brigade
  - Maintain in each building, no bulletin boards and other prominent locations, current diagrams of evacuation routes, which are reviewed at least once each quarter.
  - Assume primary on-the-scene-control pending arrival of Fire Protection personnel.
    - o Relinquish primary responsibility to the ranking Fire Protection Officer on his arrival.
  - Account for all building or area personnel in case of building evacuation.
  - Assist Fire Protection personnel, as necessary, in controlling the emergency.
- o Security Inspector Force
  - Announce the emergency (upon receipt by telephone, automatic or manual fire alarm) over the public address system and retransmit evacuation or take cover signal, as required.

  - o Follow procedures in the "Guard Order Book."

- Assure in case of a building evacuation that all uncleared contractors in the building or under control of Security are escorted outside of the security area.

  - o When "Take Cover" is signaled, uncleared personnel so electing may be escorted to the fallout shelter.

o Security - Visitor Control

- Maintain a system of identification for all visitors, except DOE visitors, that facilitate accounting for personnel in event of an emergency.

o Supervisor

- Assure that all employees and visitors know what action to take in an emergency.

- Bring the contents of this document to all employees attention at least once each six months.

- Assure in case of a building evacuation that all visitors are escorted from the area and accounted for to the Security Section.

PROCEDURE - ON-SCENE EMERGENCY RESPONSIBILITIES

EMERGENCY BRIGADE LEADER	1. Assume initial command until arrival of Senior Fire Protection Officer.
	2. Account for all building and area personnel if evacuation ordered.
SENIOR FIRE PROTECTION OFFICER	3. Assume command for all on-scene emergency control activities.
	4. Advise Emergency Operations Center of emergency status.

BUILDING MANAGER	5. Advise and assist the on-scene command as required.
	6. Advise and instruct personnel in actions relative to the emergency.
SUPERVISORS	7. Report any emergency related information to the Building Manager.
	8. Account for personnel to immediate supervisor if evacuation ordered.
EMPLOYEE	9. Report to supervisors in case of evacuation or if requested on PA.

PROCEDURE - RESPONDING TO FIRE OR EMERGENCY IN AREA

EMPLOYEE	1. Turn in the alarm.
	o Dial 7111 and report the emergency.
	o Pull the nearest fire alarm box.
	2. Get nearby assistance.
	3. Attempt to extinguish fire.
	4. Leave the building if unable to extinguish fire.
	5. Standby to direct Fire Protection personnel responding to emergency.

PROCEDURE - RESPONDING TO NOTIFICATION OF FIRE OR EMERGENCY IN BUILDING (PUBLIC ADDRESS, OR ADT BELLS)

EMPLOYEE	1. Prepare to evacuate the building.
	2. Remain in work area, out of the way of emergency personnel, until the "Evacuate the Building" or the "All Clear" signal is received.

PROCEDURE - RESPONDING TO EVACUATE THE BUILDING ANNOUNCEMENT PUBLIC ADDRESS, EMERGENCY BELLS

EMPLOYEE	1. Secure classified material.
	2. Close windows. (Except in case of bomb threat.)
	3. Shut off equipment which would create a hazard if left running unattended.
	4. Personnel in Buildings 27, 42, 48, DS, TF2, 3, 49, and I only, evacuate building automatically.
	5. Go directly to assigned assembly area.
	6. Report to supervisor.
SUPERVISOR	7. Report unaccounted for personnel to immediate supervisor and Building Manager or Emergency Brigade Leader.
EMERGENCY BRIGADE LEADER OR FIRE OFFICER	8. Initiate search for missing personnel.
EMPLOYEE	9. Remain in the assembly area until additional instructions or the "All Clear" is received.
FIELD COMMANDER	10. Determine need to order evacuation away from regular assembly area.

PROCEDURE - RESPONDING TO TAKE COVER ANNOUNCEMENT (PUBLIC ADDRESS, EMERGENCY BELLS OR WAVERING TONE ON AIR RAID SIREN)

1. Move to the assigned shelter area by the prearranged route or leave the plant site.

PROCEDURE - RESPONDING TO ALL CLEAR ANNOUNCEMENT (PUBLIC ADDRESS SYSTEM OR FIRE CONTROL PUBLIC ADDRESS SYSTEM)

EMPLOYEE IN UNAFFECTED AREA

1. Return to work.
2. Await further instructions.
   - o The "All Clear" will be issued by the Fire Protection personnel or Brigade Leader.

BRIGADE LEADERS: BUILDING RESPONSIBILITY

Brigade No.: 2 Brigade Leader: William Woollard - 4254

Buildings Assigned	Assembly Area
C - Cafeteria	East of A building
G - Garage	North of G, next to fence
GH - (Visitor Control)	Parking lot south of building
GIS - Guard Island Shelter	Parking lot south of building
GP1 - Guard Post #1	South of building near W building
GW	North of GW building along fence
H - Laundry	Between C and H buildings
W	North of W, next to fence
40 - Print Shop	South of C building entrance
47 -	North of building
65 - Modular	East of W building
91 - Modular	South of building near W building

Brigade No.: 3 Brigade Leader: Bob Ward - 3821

Buildings Assigned	Assembly Area
A - Administrative	Between C and H buildings
OSW - Operational Support West	West of building, next to fence
OSE - Operational Support East	North of G building

Brigade No.: 4 Brigade Leader: William Jewell - 3477

Buildings Assigned	Assembly Area
East Stack Fan House	
EG-4	
M - Machining and Plating	Between C and H buildings
P - Powerhouse	East of M building
PS- Paints & Solvents	East of M building
25- Meterological	West of building 25
28- Organic Chemistry	South dock of W building
60- Ceramic Facility	South dock of W building

Brigade No.: 5 Brigade Leader: _____

Buildings Assigned	Assembly Area
B - Production	Primary - Northwest corner of B building near fence
B - Solvent Shed	Primary - Northwest corner of B building near fence
I - Production	North of building next to fence
Magazine 7	North of I building next to fence
Magazine 11	North of I building next to fence
16 - Storage	North of I building next to fence
17 - Storage	North of I building next to fence
92	Roadway near west tunnel

Brigade No.: 6 Brigade Leader: Paul Teaney - 3668

Buildings Assigned	Assembly Area
E - Labs, Production	Roadway between C and H building
R - Labs	Roadway between C and H building
West Stack Fan House	
68 - D&D Dock	Roadway between C and H building

Brigade No.: 7

Brigade Leader: _____

Buildings Assigned	Assembly Area
105	North of building outside fence

Brigade No. 8 Brigade Leader: Martin Prisc - 3442

Buildings Assigned	Assembly Area
EG-1	
EG-6	
R - Labs	Roadway south of H building
SW- Radioactive Labs	Roadway west of B building
58- Filtering System	West of B building
62- Tritiated Waste	West of B building

Brigade No. 9 Brigade Leader: Ronald Reece - 5578

Buildings Assigned	Assembly Area
E-Solvent	Roadway between C and H buildings
E Building	Roadway between C and H buildings

Brigade No. 10 Brigade Leader: Brady Barnhart - 4047

Buildings Assigned	Assembly Area
Oil Storage Tank	
PH - Pump House	North side of roadway
1 - Explosives	South side of Test Fire parking lot
24 - Water Treatment	Roadway north side of building 24
27 - Explosives	Roadway west of building 67
42 - Pyrotechnic	Roadway west of building 67
43 - Explosives Preparation	South side of Test Fire parking lot
52 - Magazines	
64 - Magazines	
67 - Energetic Materials	Roadway west of building
74 - Modular	South side of Test Fire parking lot
94 - Explosives	East of building
TR - 15	Roadway north of trailer

Brigade No. 11 Brigade Leader: Chas Lindsay - 4544

Buildings Assigned	Assembly Area
T-Labs, Offices, Kyle	East side of west tower

Brigade No. 12 Brigade Leader: _____

Buildings Assigned	Assembly Area
HH - Stable Isotopes	DS stairway north of HH building
SD - Pump Controls	South of SD building
WD - Waste Disposal	North of building 23
23 - Waste Staging	North of building 23
79 - Modular	North of building 23
TR - 36	DS stairway north of HH building

Brigade No. 13 Brigade Leader: Ken Muncy - 3200

Buildings Assigned	Assembly Area
EG - 7	South side of Test Fire parking lot
MAG- 6	South side of Test Fire parking lot
2 - Explosive Components	South side of Test Fire parking lot
3 - Test Firing	South side of Test Fire parking lot
35 - ND Test Facility	South side of Test Fire parking lot
49 - Timer Fabrication	South side of Test Fire parking lot
59 - Neutron Radiography	South side of Test Fire parking lot
63 - Surveillance Facility	South side of Test Fire parking lot
87	South side of Test Fire parking lot
TR - 31	South side of Test Fire parking lot
TR - 40	South side of Test Fire parking lot

Brigade No. 14 Brigade Leader: Pete Grimsly - 3102

Buildings Assigned	Assembly Area
EG-2	
GP-44, Guard Post	Roadway south of GP-44
SM-Radioactivity	Roadway south of GP-44
31-Contaminated Materials	South of 31, toward SM building
33-SM Maintenance	NE corner SM building
36-Design Test Facility	South of building 37
37-Heat Source Test	Southeast of building 37
38-Plutonium Process	Roadway near building 44
39-Storage	East side of building 39
44-SM Cafeteria	Roadway south of GP-44
50-Alpha Fuels	Roadway south of building 50
TR-11	North dock of building 44
TR-39	North end of SM building
TR-46	Roadway south of GP-44
TR-47	Roadway south of GP-44
TR-67	South of building 37
TR-79	South of building 36
TR-88	Roadway south of GP-44

Brigade No. 14

Brigade Leader: Pete Grimsly - 3102
(Continued)

Buildings Assigned	Assembly Area
TR -90	South of building 36
88	South of building next to 37
95	Roadway west of building
101-Modular	North of building 39
102	North of building

Brigade No. 16 Brigade Leader: Herbert Hertenstein-4050

Buildings Assigned	Assembly Area
DS - Development & Standards	Roadway north of DS building
DS - Solvent Shed	
26 - Pipe Shop	Area east of building
54 - Magazine	
69 - Modular	South of E building
70 - Modular	South of E building
93 - Modular	Roadway north of DS building
COS-	East of building next to east tunnel

APPENDIX E

GUIDANCE FOR RESPONDING TO SPECIFIC INCIDENTS

FOR RESPONDING TO TOXIC FUMES OR GAS GENERATORS

- Identify the composition of the fumes or gas generated and its characteristics and hazardous properties.
- Refer to reference information sources to define the actual or potential dangers involved.
- If necessary, contact the Ohio EPA Emergency Response Team (614-942-8261) and/or CHEMTREL (Chemical Transportation Emergency Center) (800-424-9300) for guidance.
- Define and implement the safety precautions needed to respond to the incident, including protective clothing/equipment.
- Define and implement the best procedure for handling the situation.
- Complete any related cleanup needed in the affected area.

FOR RESPONDING TO CONTACT WITH INCOMPATIBLE MATERIALS

- Identify the composition of the incompatible materials involved and their characteristics and hazardous properties.
- Refer to EPA document on incompatible materials and to other reference information sources to define the actual or potential dangers involved.
- If necessary, contact the Ohio EPA Emergency Response Team (614-942-8261) and/or CHEMTREC (800-424-9300) for guidance.
- Define and implement the safety precautions needed to respond to the incident, including protective clothing/equipment.
- Define and implement the best procedure for handling the situation.
- Containerize any resulting stable materials or any known unreacted material.
- Complete any related cleanup needed in the affected area.

FOR RESPONDING TO MAJOR SPILLS

- Identify the composition of the spilled material and its characteristics and hazardous properties.
- Refer to reference information sources to define the actual or potential dangers involved.
- Define and implement the safety precautions needed to respond to the incident, including protective clothing/equipment.
- Define and implement the best procedure for cleaning up the spill and containerizing the spilled material.
- Complete any related cleanup needed in the affected area.

FOR RESPONDING TO MINOR LEAKS

- Identify the composition of the spilled material and its characteristics and hazardous properties.
- Refer to reference information sources to define the actual or potential dangers involved.
- Define and implement the safety precautions needed to respond to the incident, including protective clothing/equipment.
- Define and implement the best procedure for stopping the leak.
- Define and implement the best procedure for cleaning up and containerizing the leaked material.
- Complete any related cleanup needed in the affected area.

ENCLOSURE 5

7. TRAINING PROGRAM

All facility personnel (i.e., personnel who work at or oversee the operations of hazardous or radioactive mixed waste facilities and whose actions or failure to act may result in noncompliance with interim status or permit standards) successfully complete a program of instruction and on-the-job training that teaches them to perform their duties in a way that ensures the site's compliance with 40 CFR 265.16. The introductory and continuing training programs at Mound prepare our employees to operate and maintain the hazardous waste management facilities in a safe manner.

Training is provided in one or a combination of the following ways:

- Formal training programs outside of Mound offered by professional training organizations
- In-house training programs offered by qualified instructors
- On-the-job training programs offered by the job supervisor or other qualified instructor

7.1 Training Program Outline

The intent of our personnel training is to reduce the potential for mistakes which might threaten human health or the environment by insuring that facility personnel handling hazardous waste are thoroughly familiar with their duties and responsibilities. In addition to providing training in the mechanics of their job function, the training program provides information on the following topics as applicable to the particular person's position:

- Compliance with applicable procedures
- The proper use of health, safety, and environmental monitoring equipment, including safe equipment operation
- Emergency response procedures

All facility personnel receive instruction on implementation of the contingency plan relevant to the positions in which they are employed. In addition, facility personnel are prepared to respond effectively to emergencies by familiarizing them with emergency procedures, emergency equipment, and emergency systems, including where applicable:

- Procedures for using, inspecting, repairing, and replacing facility emergency and monitoring equipment
- Key parameters for automatic waste and cut-off systems
- Communications or alarm systems
- Response to fires or explosion

- o Response to ground water contamination incidents
- o Shutdown of operations

In addition, other specific topics are included in the initial training program and in the annual review program for various positions in the different waste management activities at Mound as outlined in Table 7-1. Job descriptions for these positions are provided in Table 7-2.

TABLE 7-1. TYPES OF TRAINING RELEVANT TO VARIOUS POSITIONS

Activity	Position	Training Relevant To Position
Overall responsibility for site waste management	Supervisor	RCRA/DOT regulations and DOE orders/guidance that impact Mound
Keeping abreast of applicable statutes and regulations and advising site personnel in regulatory compliance and interpretation	Regulatory Specialist	Federal/state RCRA regulations; DOE orders/ guidance; DOT shipping regulations
Collection, storage and shipment of hazardous and radioactive mixed waste	Waste Engineer	RCRA and DOT regulations applicable to Mound; properties of hazardous chemicals/wastes; standard operating procedures, emergency response
Maintenance of waste storage facility, inventory control, preparation of waste for offsite shipment	Waste Technician	Safe waste handling procedures; regulatory compliance requirements; hazardous properties of chemicals/waste; protective clothing and equipment; emergency response.
Burning of hazardous and radioactive mixed waste in glass melter	Thermal Treatment Engineer/ Technician	Properties of hazardous chemicals/wastes and radioactive materials; RCRA compliance standards; waste handling/storage procedures; operation of glass melter and ancillary equipment; emergency reponse
Storage/treatment of explosive/ pyrotechnic waste	Burn Area Technicians	Explosive safety training for burn area operations; procedures for storage and destruction of energetic waste materials using open burning, retorting and thermal treatment

TABLE 7-2. JOB DESCRIPTIONS FOR POSITIONS INVOLVING HAZARDOUS WASTE

Position	Job Description
Supervisor	Overall responsibility for all site waste management activities, including hazardous waste, radioactive mixed waste, radioactive waste and nonhazardous waste; provides direction and guidance for day-to-day activities; assures compliance with applicable regulations and DOE orders; requires degree in chemistry, chemical engineering, environmental engineering, nuclear engineering or related field; requires management and interpersonal skills.
Regulatory Specialist	Overall responsibility for keeping abreast of federal, state and local statutes and regulations pertaining to hazardous waste, radioactive mixed waste and other environmental regulations; provides regulatory interpretation and guidance to waste management personnel and to other site personnel regarding compliance with applicable regulations; requires degree in chemistry, chemical engineering, environmental engineering or related field; requires interpersonal skills and ability to understand and interpret complex rules.
Waste Engineer	Responsible for daily support of waste management activities; responsible for weekly pickup of hazardous and radioactive mixed waste generated throughout site and for consolidation and storage of such waste; responsible for maintaining waste storage facility in regulatory compliance; provides guidance to site personnel on safe treatment, packaging and disposal of waste generated; ships containerized waste offsite for treatment and/or disposal; requires working knowledge of applicable RCRA and DOT regulations and knowledge of standard operating procedures and emergency response procedures; requires degree in chemistry, chemical engineering, environmental engineering, or related field; requires interpersonal skills.

TABLE 7-2 (CONTINUED)

Waste Technician	Responsible for maintenane of hazardous waste storage facility, waste inventory control, and preparation of containerized waste for offsite shipments; requires on-the-job training in hazardous waste storage facility operation including safe handling of waste, properties of hazardous aterials, safety data sheets, inventory control, protective clothing and equipment, and emergency response; requires high school education and preferably technical college courses in chemistry or the environmental field; requires maturity, dedication and conscientiousness.
Thermal Treatment Engineer/Technician waste (position not currently filled)	Responsible for operating glass melter for burning hazardous and radioactive mixed and for maintaining the facility in a state of readiness; responsible for proper management of any containerized waste located at glass melter prior to burning and for proper disposal of any wastes generated in waste burning process; requires degree in engineering (for engineer) or some technical education (for technician) and extensive on-the-job training in operation of the glass melter facility; requires knowledge of properties and handling of hazardous and radioactive waste, regulatory compliance standards, and emergency response.
Burn Area Technicians	Responsible for storage and treatment of explosive and pyrotechnic waste using open burning, retorting, and thermal treatment; requires related science, engineering or associate degree or extensive hands-on training and experience with explosive and pyrotechnic materials; requires knowledge of safe handling of energetic materails, personnel protection and emergency response.
Material Handlers, and Drivers, Forklift Operators, and Laborers	Provide hands-on assistance in waste pickup transport; requires knowledge of waste properties, safe waste handling procedures, protective measures, and basic applicable regulations.

7.2 Supplementary Training Program Information

7.2.1 Storage of Hazardous Waste and Radioactive Mixed Waste

Personnel who work with stored hazardous waste and radioactive mixed waste are provided training in accordance with their job requirements. Specific topics covered in such training include those briefly described below:

- Waste Identification/Analysis - Wastes must be uniquely identified and chemical/physical analyses of waste must be completed to obtain information needed for waste treatment, storage or disposal.

- Special Requirements for Ignitable, Reactive, Incompatible Wastes -

  Precautions must be taken to prevent accidental ignition or reaction of ignitable/reactive waste; precautions must be taken to prevent reactions between incompatible wastes or incompatible wastes and other materials. Containers of ignitable/reactive waste must be kept at least 50 feet from property line.

- Compatibility of Waste With Containers - Container materials of construction must be compatible with waste properties.

- Container Condition/Management - Containers of stored waste must be kept closed and inspected weekly for deterioration. Waste containers must be handled and stored in a manner that does not rupture the container or cause it to leak.

- General Inspection Requirements - The facility must be inspected for malfunctions, deterioration and discharges that could lead to the release of hazardous waste or threaten human health; inspection records must be maintained.

- Preparedness and Prevention - Facility design, construction, maintenance and operation must minimize the possibility of fire, explosion or unplanned release of waste to the environment. Communications and emergency response equipment must be available, tested and maintained. Aisle space among stored containers must allow unobstructed movement of personnel, and fire/spill control equipment in an emergency.

- Facility Security - Unknowing entry to the facility must be prevented and the possibility for unauthorized entry must be minimized.

- Operating Records - Written operating records must be kept and maintained at the facility until closure.

- Manifest System - Manifests must be prepared and accompany all hazardous waste shipped offsite for treatment or disposal. Copies of manifests must be retained for at least three years. Significant manifest discrepancies must be reconciled.

- o Recordkeeping and Reporting - Required records must be available to EPA upon request and retained for prescribed periods. Reports must be submitted to the EPA as requested covering waste types and quantities managed onsite and shipped offsite. Efforts to reduce hazardous waste volume and toxicity must be described.

- o Closure - A plan for the closure of each hazardous waste management facility must be maintained and updated as needed.

Figure 7-1 lists some of the seminars and workshops used to train personnel working with hazardous waste and radioactive mixed waste.

7.2.2 Thermal Treatment of Hazardous and Radioactive Mixed Wastes

The Waste Management Supervisor, who is familiar with the glass melter system and with the overall plant facility, conducts all training sessions for persons who operate the glass melter. The sessions include safety, spill prevention and control, and operation procedures. Operating directives, safety directives, and Contingency Plans are reviewed by all operating personnel. Files of these documents are available to operating personnel.

During the training program, employees receive instructions on the following major topics: (1) the hazardous nature of chemicals and chemical wastes in general, (2) the purpose of RCRA and importance of maintaining compliance with RCRA regulations, (3) the hazardous nature of the wastes being treated, (4) proper handling and storage procedures for wastes, (5) emergency procedures and the contingency plan related to the thermal treatment process, and (6) the operation of the glass melter and ancillary equipment.

The training program is outlined in Figure 7-2. Other specific training topics include:

- o Using appropriate personnel protective equipment
- o Handling hazardous materials
- o System operating conditions
- o System safety and monitoring interlocks
- o Spill prevention and control

The training program is tiered in some areas to provide training to personnel at levels that are relevant to their positions within the glass melter operation. On-the-job training is used to provide the additional specialized training.

For key personnel, Mound tries to supplement this training with attendance at one or more technical seminars or training programs on hazardous materials.

Department of Energy Seminars/Workshops
- Land Disposal Regulations
- Part B Permit
- Mixed Waste
- Underground Storage Tanks
- Implementation of Hazardous Waste Program
- Superfund
- Explosives Safety

Ohio Environmental Protection Agency Seminars/Workshops
- Workshop on Hazardous Waste Regulations
- Update for Ohio Businesses Regarding Hazardous Waste

Commercial Seminars
- Government Institutes Seminar on RCRA
- EXPO Hazardous Waste Conference
- Lion Technology Workshop on Hazardous Waste Regulations
- HMWM Seminar on Hazardous Waste Disposal and Regulations
- National Security Council Seminar on Supervisory Safety

Mound Seminars

- Training Manuals
- RCRA
- Safety and Loss Prevention Training
- Hazardous Materials Incident Analysis
- Department of Transportation Regulations

Monsanto Workshops Seminars
- RCRA Part A Permit
- RCRA Amendments Update
- Environmental Control Workshop
- Groundwater Briefing
- Sampling/Analytical Requirements for RCRA

Figure 7-1. Seminars/Workshops Used for Training Personnel Working With Hazardous Waste and Radioactive Mixed Waste

1. Introduction
   - Chemical hazards
   - The Resource Conservation and Recovery Act - RCRA

2. Glass Melter Process Description
   - Waste description
   - Description of unit
   - Air pollution control facilities description
   - Key terms of the permit
   - Normal/routine operations
   - Waste analysis
   - Auxiliary fuel system
   - Recordkeeping requirements (carbon monoxide in stack gas, waste feed rate, chamber temperature, excess oxygen)
   - Security
   - Inspections

3. Emergency Procedures and Contingency Plans
   - Emergency Coordinator
   - Emergency procedures
   - Emergency communications/phone numbers and alarms
   - Location, maintenance, inspections, use, and repair and replacing facility emergency and monitoring equipment
   - Procedures for waste feed cut-off systems
   - Procedures for electrode failure
   - Spill control and response to groundwater contamination incidents
   - Fires and explosions
   - Power interruption or failure
   - Tornadoes and severe storms

Appendix A RCRA Regulations for Hazardous Waste Management

Appendix B Summary of Conditions Specific in Mound's RCRA Permit

Appendix C Training Programs in Hazardous Waste Management

Figure 7-2. Outline of Mound's Hazardous Waste Training Program for Glass Melter Personnel

A brief description of each section of the training program for glass melter personnel follows:

1 - Introduction

This section of the course introduces the employees to the general classes and characteristics of chemicals and chemical wastes that can be hazardous to health and property. In this context, the terms toxicity, reactivity, corrosivity, and ignitability are defined. It is Mound's policy that each employee handling chemical substances respect them and be aware of these potential hazards. The company's policy on the use of protective clothing and safety equipment to prevent accidental worker exposures and releases to the environment of hazardous chemicals and wastes is discussed.

The authority for regulating hazardous wastes under RCRA also is discussed. The regulatory framework for classifying hazardous wastes, setting operational standards, and permitting procedures and achieving compliance is explored. The RCRA permit (once it is received) will also be studied to be sure that each employee is familiar with its terms.

2 - Glass Melter Process Description

This section focuses on the types of hazardous wastes that will be burned in the glass melter, and procedures for maintaining compliance with the RCRA permit (e.g., waste analysis, recordkeeping, inspections, and security). A system diagram showing the dimensions, capacity, and relative position of each system component is included.

Training for normal or routine operating conditions includes the following topics:

- Proper operation and maintenance of the glass melter
- Scheduled inspections
- Purpose and use of security and communications systems
- Monitoring requirements for tracking and recording the operation of the melter
- Recordkeeping requirements and procedures

3 - Emergency and Contingency Plan

The third section of the course will provide detailed instruction on steps to be taken in the event of an emergency such as a waste spill or fire, power outage, or damage from wind and storms. The emergency coordinator will be identified, as will emergency phone numbers and directions for locating and using unit emergency equipment, alarms, and communications. Contingency plans will also be detailed.

7.2.3 Storage/Treatment of Explosive/Pyrotechnic Waste

Burn area personnel complete a program of classroom instruction and on-the-job training that teaches them to perform their duties in a way that ensures the facility's compliance with Mound, DOE and Ohio EPA rules. All operating personnel in the burn area receive annual refresher training on inspection, repair and replacement of emergency monitoring equipment, alarm systems, emergency responses, and shutdown of operations. Personnel training records are maintained by Administration Department personnel for all Mound employees.

Mound Course No. 0116, outlined in Figure 7-3, provides explosive safety training for burn area personnel and includes discussion of the history of explosives, definitions, explosives at Mound, labeling of explosives, safe handling procedures, explosive lab requirements, explosive lab processes, explosive lab clothing, lab hazards, static electricity, explosive waste disposal and the DOE Explosive Safety Manual (DOE/EV/06194-3, August 1985). The course is presented by a Mound employee who is trained and experienced in explosive waste management procedures.

The training program includes a review of Mound Manual MD-10091, Destruction of Energetic Waste Materials. The manual describes the materials and equipment needed for the destruction of energetic waste, the segregation of waste materials, the collection of materials and their preparation into various categories for destruction, and the destruction and disposal of energetic waste material by open burning, thermal treatment, and burning or detonation in a retort. Response to fires and explosives and procedures for the shutdown of operations in the burn area are covered in MD-10091.

Other topics discussed in training include:

- Problems that occur during the burning or destruction of wastes and that are diagnosed from a remote area using instrument data and operating records.

- The retort unit with its automatic waste feed cut-off provision (conveyor belt); the open burning and incinerator burning (thermal treatment), which are batch operations.

- Communications facilities which include a telephone system.

7.3 Trainer Qualifications

In general, employees receive training from an individual trained or knowledgeable in hazardous waste management procedures. Persons serving as trainers are qualified employees of Mound, EG&G, (Monsanto Company employees with specific knowledge and expertise had provided training in the past) or the U.S. Department of Energy, or they are consultants or persons employed by organizations that professionally develop and provide training information in seminars, workshops, or audio-visual presentations. Some training sessions have been provided by state and federal EPA personnel knowledgeable in specific relevant fields.

Session 1
- Course Introduction
- Pre-test - Signature Requirement
- History of Explosives
- Definitions
- Explosives - Mound (Video)

Session 2
- Labeling of Explosives (MD-10190)
- Safe Handling Procedures (Film)
- Explosives - LLNL (Video)

Session 3
- Explosive Lab Requirement
- Explosive Lab Processes
- Explosive Lab Clothing
- Lab Hazards
- Static Electricity (Film)

Session 4
- Explosive Waste Disposal (Video)
- DOE Explosive Safety Manual
- Test
- Critique
- Diploma

Figure 7-3. Outline of Mound Course 0116 Used for Explosive Explosive Safety Training of Burn Area Personnel

Personnel who operate the glass melter are trained by the waste management supervisor, who is familiar with that system and with the overall plant facility. Training is provided by the Waste Engineer to waste handlers, drivers, forklift operators and laborers who supply hands-on support to site waste management activities.

7.4 Personnel Training Frequency

Facility personnel successfully complete their training programs within six months after the date of their assignment to one of the waste management units described in the permit application. Such personnel also take part in an annual review of the initial training.

Personnel working in the glass melter area complete 16 hours of classroom instruction and six weeks on-the-job training. An annual eight-hour refresher/update session is provided annually. In addition, project engineers and their supervisor attend seminars and conferences involving hazardous waste management.

7.5 Personnel Training Records

Documents and records are maintained describing each position and the training and experience obtained by facility personnel. Such records will be kept until closure of each waste management unit/area and for three years from the date of termination for former employees. Such records are maintained at Mound for the following positions.

CURRENT PERSONNEL IN HAZARDOUS WASTE MANAGEMENT

POSITION	INDIVIDUAL
Supervisor	R. K. Blauvelt
Regulatory Specialist	R. J. Janowiecki
Waste Engineer	L. M. Klinger, Mary Boyce
Waste Technician	S. Nohacs
Thermal Treatment Engineer	(Position not currently filled)
Burn Area Technicians	E. Brewer, J. McQueen, W. Vinings, N. Way
Material Handlers, Drivers	Various Individuals
Forklift Operator and Laborers	" "

FORMER PERSONNEL IN HAZARDOUS WASTE MANAGEMENT

POSITION	INDIVIDUAL
Waste Engineer	A. Vaughters, S. Wilson
Waste Technician	J. Sallee, L. Ratliff, D. Hopkins, S. Sarris
Thermal Treatment Engineer	K. Armstrong (L. Klinger served in this position prior to transfer to Waste Management Group.

Training by site waste management personnel also is provided at Mound to persons who generate, handle or supervise persons involved with hazardous waste or have the potential for such work. Past training sessions are listed below:

Date	Topic	Audience
2/12/80	Non-Nuclear Waste Management Program	Utilities, Facilities, and Design Engineering personnel
6/09/80	Safety Aspects of Solvent Waste Handling	V. D. Smallwood, C. A. Parrish, 15 laborers, and 6 custodians
7/15/80	Fire Protection, Personal Protective Equipment, Labeling and Identification	Laborers who handle hazardous material
7/28/80	RCRA Regulations and Their Impact on Mound	Mound Executive Safety Committee including R. T. Braun, J. E. Caldwell, V. E. Castleberry, W. T. Cave, R. E. Howard, J. R. McClain, T. M. McGavick, M. L. Mullins, and A. F. Vollmer
10/29/80	RCRA Regulations and Their Impact on Mound	DOE Dayton Area Office personnel including H. N Hill, G. R. Gartrell, D. S. Ingle, R. M. Munson, H. R. Watkins, and R. J. Granfield
3/12/81	Safety and Loss Prevention Training	L. W. Metcalf, Mgr. Safety and Fire Protection, and staff; D. A. Edling, Mgr. Technical Support and staff

Date	Topic	Audience
6/17/85	Hazardous Materials Incident Analyses	Traffic personnel including A. Heitkamp, R. Burnett and C. Fuller; waste management personnel including R. Janowiecki and R. Hampel; Fire Department personnel including D. Heitz (chief), C. Izor, S. Ward, D. Bechtol, H. Holbrook, D. Cunningham, C. Smith, C. Geloff, R. Hensley, R. Erisman, P. Kulback, B. Potter, F. Kennedy, M. Lucas
11/26/85	Hazardous Waste Handling Safety	Transportation personnel including R. Howard, G. Berch and M. Waller; distribution personnel including J. Michaels; and laborers including D. Tall, S. Gregory, W. Beverly and J. Hart
12/9/85	Hazardous Waste Handling Safety	Laborers including M. Ishmael, D. Tall, M. Huguely, D. Tincher, J. Keney, E. Parker, P. Le Vangie, B. Pettey, H. Head, and H. Matheson
12/11/85	Hazardous Waste Handling Safety	Radioactive waste management personnel including F. Traino, D. Grimm, K. Haney and L. Pitts; glass melter personnel including L. Klingler and K. Armstrong
7/24/86	Waste Identification, Packaging, Labeling and Waste Pickup Procedures for Brine and Asbestos Wastes	Maintenance supervisors and foremen.
As Needed	Safe Handling Practices for Waste (OTJ)	Material Handlers; during weekly waste pickup and other activities involving waste.
As Requested	Waste Handling and Packaging Guidance	Any site personnel having a waste-related concern.

Date	Topic	Audience
6/17/85	Hazardous Materials Incident Analyses	Traffic personnel including A. Heitkamp, R. Burnett and C. Fuller; waste management personnel including R. Janowiecki and R. Hampel; Fire Department personnel including D. Heitz (chief), C. Izor, S. Ward, D. Bechtol, H. Holbrook, D. Cunningham, C. Smith, C. Geloff, R. Hensley, R. Erisman, P. Kulback, B. Potter, F. Kennedy, M. Lucas
11/26/85	Hazardous Waste Handling Safety	Transportation personnel including R. Howard, G. Berch and M. Waller; distribution personnel including J. Michaels; and laborers including D. Tall, S. Gregory, W. Beverly and J. Hart
12/9/85	Hazardous Waste Handling Safety	Laborers including M. Ishmael, D. Tall, M. Huguely, D. Tincher, J. Keney, E. Parker, P. Le Vangie, B. Pettey, H. Head, and H. Matheson
12/11/85	Hazardous Waste Handling Safety	Radioactive waste management personnel including F. Traino, D. Grimm, K. Haney and L. Pitts; glass melter personnel including L. Klingler and K. Armstrong
7/24/86	Waste Identification, Packaging, Labeling and Waste Pickup Procedures for Brine and Asbestos Wastes	Maintenance supervisors and foremen.
As Needed	Safe Handling Practices for Waste (OTJ)	Material Handlers; during weekly waste pickup and other activities involving waste.
As Requested	Waste Handling and Packaging Guidance	Any site personnel having a waste-related concern.

CLOSURE PLAN FOR MIXED WASTE STORAGE AREA IN BUILDING 23

1. PROCEDURE

We plan to close the radioactive mixed waste portion of the Bldg. 23 storage facility at Mound during 1995.

Performance Standard - The specified waste storage facility will be closed in a manner that minimizes the need for further maintenance and that controls, minimizes, or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of hazardous waste or constituents or decomposition products to the atmosphere, surface water, and ground water.

Facility Conditions - Radioactive mixed wastes generated at the site are mostly scintillation vials which are ignitable liquids. Small vials of such wastes are stored in 55-gallon drums.

The composition of virtually all mixed waste generated at this site is known from process conditions; hence, waste characterization is accomplished mostly by declaration instead of chemical analysis. However, chemical analyses will be conducted to identify unknown wastes.

Upon receipt of approval of our Closure Plan, the closure schedule will be initiated. All mixed waste in storage will be sent offsite for disposal within 90 days after approval of the Closure Plan or after receipt of the final volume of waste, whichever is later. All of the closure activities described in this plan will be completed within six months after approval of the Closure Plan.

Estimated Maximum Waste Inventory in Storage - Based on current and projected wastes generated at this site, we estimate a maximum inventory of 200 drums of mixed wastes in storage at any given time during the life of our storage area.

Removal of Inventory - All mixed waste to be shipped offsite for disposal will be sent to an EPA-approved facility or DOE-approved facility. Containerized waste will be shipped from storage if the existing containers are deemed to be satisfactory for shipment. If the storage containers are defective, the wastes will be placed in larger containers of acceptable quality for transportation to an offsite disposal facility.

Mixed waste may be incinerated onsite at closure, if the technology is available and the procedure is within EPA/DOE/state regulations and orders.

Decontamination of the Facility - That portion of Bldg. 23 where mixed waste is stored will be decontaminated at closure by removing all hazardous waste and residues from equipment and structures. We

will focus on removir the hazardous component of the contamination, not the radioactive component, since the remainder of the building is used for radioactive waste storage. We will complete to the extent necessary the steps listed below and described in subsequent paragraphs.

(1) Identify which items are contaminated and determine the nature and extent of contamination.

(2) Select appropriate cleaning procedures including equipment and media.

(3) Decontaminate items; collect and containerize cleaning fluids and residues for offsite disposal; conduct sampling and analysis to show that contamination no longer exists.

(4) Send for offsite disposal those items that cannot be properly decontaminated.

o Identification of Waste to be Removed

We will identify the items to be decontaminated from our knowledge of past storage practices and operations involving hazardous wastes. We will visually inspect the identified items to determine the nature and extent of contamination. Under natural light, discolorations, stains, corrosive effects and visible dirt may indicate the presence of contaminants. In addition, samples of contaminating waste will be taken and analyzed to identify or confirm waste composition or characteristics.

o Cleaning Media, Equipment and Procedures

We will refer to the CRC Handbook of Chemistry and Physics for information on solvents for specific waste compositions or components in order to select appropriate cleaning media for removing soluble wastes from items. Wastes soluble in water will be removed from items by flushing with water, then washing the items with soap and water. Organic solvents will be used as needed to dissolve and remove wastes from items; such items will then be washed with soap and water to remove any organic residues. Special cleaning liquids will be used if deemed necessary on the basis of unusual solubility characteristics of the waste involved.

The following cleaning procedures are representative of those that will be used for decontamination of the storage facility and associated equipment at closure: 1) washing with soap and water, 2) solvent flushing, 3) hydraulic scouring and blasting, 4) steam blasting, and 5) manual or mechanical removal of waste by scrubbing/scraping followed by solvent cleaning. After decontamination, we will sample all equipment, structures and surfaces and analyze such

samples for evidence of residual hazardous wastes. If no residual hazardous waste is found, the item will be considered to have been adequately decontaminated. If organic hazardous waste is evident, additional cleaning will be completed until waste constituents in a representative sample are below detection levels. If a heavy metals waste is evident, additional cleaning will be completed until such constituents in a representative sample are not significantly greater than the background levels.

Cleaning will be completed using various types of equipment including 1) drums and other large containers for collecting waste fluids and residues, 2) any contaminated vessel, piping, etc. itself, 3) hoses, portable pumps and vacuum equipment, and 4) hand tools, shovels and earth-moving equipment for dirt removal. For example, small items (such as contaminated pumps) can be placed in a drum or large container for decontamination. If any installed equipment (such as piping and vessels) must be decontaminated in place, containers will be placed at the equipment outlet to collect cleaning fluids. If a large undiked surface (such as the drum holding area) is to be cleaned, small dam-like structures or plastic overlays will be placed on the surfaces to control the flow of cleaning fluids, which will be removed from the surface by vacuum or mopping and placed into containers for disposal. All empty containers previously used for hazardous waste storage will be decontaminated for re-use or shipped offsite for disposal. Hazardous waste residues from the decontamination procedure also will be sent offsite for disposal.

We will determine the potential for penetration of waste into the concrete structure and the underlying and adjacent soil owing to leaks or spills. Cracks and damage to the diked enclosures will be carefully examined for evidence of penetration. If contamination is observed and found to be beyond the possibility of satisfactory decontamination, the contaminated concrete will be broken into pieces, removed, and shipped offsite for disposal in a landfill. If contaminated soil is found below the pad or elsewhere, soil samples will be taken and analyzed to determine the extent of contamination. If the soil is found to be contaminated with organic hazardous waste, that soil will be excavated, containerized and sent offsite for disposal; the newly exposed soil will be sampled, analyzed and removed until the new soil shows no detectable organics. If the soil is found to be contaminated with heavy metals waste, that soil will be excavated, containerized, and sent for offsite disposal; the newly exposed soil will be sampled, analyzed and removed until the new soil shows no heavy metals significantly greater than background levels.

Items that cannot be properly decontaminated and contaminated disposable items will be enclosed and sent for offsite disposal.

Sampling Procedures

Random wipe sampling will be used to obtain information on the effectiveness of decontamination of objects, surfaces and equipment. A dry or wet cloth, glass fiber filter paper, or swab will be wiped over the surface of the potentially contaminated object or equipment and then analyzed for organics, heavy metals or other RCRA-hazardous constituents that are known or suspected to be present.

Soil samples will be taken around Building 23 and/or at other areas related to the former waste storage area if contamination is evident or suspected. In that case, samples of soil from near the soil surface will be obtained using a spade, shovel or scoop to remove the soil cover to the required depth, and then using a stainless steel or other chemically compatible scoop to collect the sample. A systematic sampling scheme will be used to collect samples at predetermined regular intervals. Some compositing of soil samples prior to analysis may be done depending on preliminary findings and practical considerations. An undisturbed sample will be collected from the excavation by using a thin-wall tube sampler, which is forced into the soil, then extracted. Friction will usually hold the sample material in the tube during the extraction. The construction material will generally be steel; some samplers may utilize plastic liners and interchangeable cutting tips. Soil sampling could also be completed by hand augering a borehole, removing the auger, and lowering a tube sampler into the hole, then forcing it into the soil at the completion depth.

In addition to samples of potential contamination, blank samples (deionized/distilled water, rinsed collection devices, etc.) will be taken, handled in the same manner as the contamination samples, and analyzed to identify possible sources of contamination during collection, preservation, handling or transport.

Containerized or bulk waste in inventory at closure of the waste management facility, whose composition and characteristics are not sufficiently known to allow offsite disposition, will be sampled and analyzed using the approach described in our Waste Analysis Plan.

Sample containers will be selected on the basis of compatibility with the waste, resistance to breakage, cost and volume. Analytical procedures for determining waste constituents will be those outlined in RCRA Part 261 and EPA Report SW-846, Third Edition.

- Personnel Safety Equipment

Personnel protective equipment and safety requirements during decontamination will be appropriate to protect against known or potential hazards. Equipment will be selected based on the type, concentration, possibilities, and routes of personnel exposure from the substances present. If the types of materials and possibilities of contact are unknown or not clearly identifiable, a more subjective determination will be made of personnel protective equipment required. Using the best available information, the appropriate level of protection will be selected from the Interior Standard Operating Safety Procedure provided by U.S. EPA (April 1981):

Level A - When the highest available level of respiratory, skin and eye contact protection is needed.

Level B - When the highest level of respiratory protection is needed, but exposure to small unprotected areas of the body is unlikely or concentrations are known to be within acceptable exposure standards.

Level C - When the type(s) and concentration(s) of respirable material are known, the material has adequate warning properties, or the material is reasonably assumed to be not greater than the protection factors associated with air-purifying respirators; and exposure to the few unprotected body areas is unlikely to cause harm.

Level D - When the site is positively identified as having no toxic hazards, the basic work uniform should be worn.

For example, Level A protection could be indicated if:

1. The type(s) and concentration(s) of toxic substances are known and any of the following conditions exist:

   - o Atmospheres that are immediately dangerous to life and health
   - o Known atmospheres or potential situations that would affect the skin or eyes or be absorbed into the body
   - o Oxygen-deficient atmospheres with the above conditions.

2. The type(s) and/or potential concentration(s) of toxic substances are unknown.

3. Total vapor readings indicate 500 ppm to 1,000 ppm on instruments such as the photoionizer or organic vapor analyzer.

For Level A, the following personal protection equipment would be used: 1) positive pressure SCBA totally encapsulating suit, 2) inner chemical-resistant gloves, 3) chemical-protective boots, 4) outer chemical-resistant gloves, 5) cotton underwear, 6) hard hat, 7) disposable protective suit, gloves and boots, 8) coveralls, and 9) 2-way radio communications. Other equipment is prescribed by U.S. EPA for Levels B, C and D.

Personnel involved in decontamination procedures will practice good personal hygiene. Existing directives will be followed pertaining to the fit of respiratory protection equipment, corrective lenses, contact lenses, eating and smoking areas, and toilet facilities. Such personnel themselves will be decontaminated before leaving the work site, depending on the seriousness of the contamination. Impermeable clothing will be flushed with water before being removed by the person wearing it. Boots will be scrubbed with decontaminant or soap and water. Clothes will be placed in marked containers for laundering. Persons will shower completely using soap and water before donning clean street or work clothes. Waste waters from laundering and other activities will be treated as contaminated until proven otherwise.

Closure Certification - When closure of this hazardous waste storage facility has been completed, a registered professional engineer will certify that this area has been closed in accordance with the approved closure plan. The certification will be signed by Mound's owner or operator and by the engineer and submitted to EPA by registered mail. The registered professional engineer will be an employee of EG&G Mound Applied Technologies who is not associated with the waste management activity at the site but who is employed in our Loss Prevention and Environmental Control Activity. The LP&EC function performs technical reviews of all engineering service orders at Mound to ensure that relevant safety, health, and environmental issues are addressed. Documentation supporting the engineer's certification will be furnished to EPA upon request.

2. SCHEDULE FOR CLOSURE

The following schedule includes the basic activities that would be completed at closure of the mixed waste storage area in Bldg. 23. All closure activities will be completed within six months after start.

Month After Start	Activity
1	Conduct health physics scan of each container to determine the extent of radioactivity
1-2	Open containers, examine contents, and repackage or sort as necessary.
1-2	Identify unknown wastes; sample and analyze such waste to determine composition/ characteristics.
2-3	Dispose of wastes offsite or incinerate onsite.

Month After Start	Activity
3-4	Decontaminate structure and equipment by removing all hazardous waste and residue; collect and containerize cleaning fluids and residues; conduct sampling and analysis to show that contamination no longer exists.
4-6	Dispose of all equipment, structures, and analyzed wastes/residues intended for discard.
6	Complete any remaining activities.
6	Submit certification to EPA that facility has been closed per specifications in approved Closure Plan.

3. COST ESTIMATE FOR CLOSURE

Using the basic procedure outlined in this plan, the cost associated with such work is estimated to be between $46,000 and $100,000, depending on the method for waste disposal, as shown in the following table. This cost may be less if contamination is found to be minimal or if decontaminated materials can be reused instead of disposed of.

A.	Conduct health physics scan 2 man-weeks @ $20/hr	$ 1,600
B.	Open containers, examine contents, repackage/sort 6 man-weeks @ $20/hr	$ 4,800
C.	Sample/analyze unknown wastes and samples of decontaminated objects/ equipment 100 samples @ $200	$20,000
D.	Dispose of waste offsite 250 drums @ $200	$50,000
D[1].	Incinerate waste onsite 8 man-weeks @ $20/hr	$ 6,400
E.	Decontaminate structure/equipment 2 man-weeks @ $20/hr	$ 1,600
F.	Dispose of structure/residues as necessary 1 man-week @ $20/hr = $800 Offsite transport/disposal = $1,000	$ 1,800
G.	Complete remaining activities 0.5 man-week @ $20/hr	$ 400

H. Prepare/submit c tification
0.1 man-week @ $25/hr $ 100

	(offsite disposal)	(onsite incineration)
Subtotal	$ 80,300	$36,700
Contingency @ 25%	20,075	9,175
Total Cost	$100,375	$45,875

Adjustment for Inflation - 1-27-87

Inflation factor: 1.031 (per J. Amos, MRC Engineering)

$100,375 x 1.031 = $103,490 (adjusted closure cost if offsite disposal)

$ 45,875 x 1.031 = $ 47,300 (adjusted closure cost if onsite incineration)

Adjust for Inflation - 10-12-87

Inflation factor: 1.036 (per J. Amos, MRC Engineering)

$103,490 x 1.036 = $107,220 (adjusted closure cost if offsite disposal)

$ 47,300 x 1.036 = $ 49,000 (adjusted closure cost if onsite incineration)

Adjustment for Inflation - 1-6-89

Inflation factor: 1.043 (per J. Amos, EG&G Engineering)

$107,220 x 1.043 = $111,830 (adjusted closure cost if offsite disposal)

$ 49,000 x 1.043 = $51,107 (adjusted closure cost if onsite incineration)